FEEDSTUFFS

The Weekly Newspaper for the Feed Industry

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FEEDSTUFFS *Features This Week*

MONEY—The annual AFMA convention, being held May 7-10, serves to focus attention on some of the major developments and problems in the industry. One of these is money—the need of it, the lack of it, the having of it and the using of it. For this reason, this pre-convention issue of Feedstuffs includes a number of important articles on such things as capital requirements, financing methods and credit policies:

New Financing Methods—The treasurer of the Ralston Purina Co. describes current and new financing methods in the feed industry. Comments on integration developments are part of the article. **Page 32.**

Capital Requirements—Capital requirements will continue to increase for many feed manufacturers. Oakley Ray of the AFMA discusses this subject, including capital procurement, on **page 18.**

Credit Policies—How do the feed industry's credit management results stack up with those of other industries? What are current credit and financing policies across a wide segment of the industry? See the interesting results of a survey on **page 116.**

CHOLINE FOR CATTLE—A Washington State University researcher reports on work in which choline has increased gains of fattening cattle. **Page 16.**

FULL-FAT SOYBEANS—A Cornell scientist outlines and discusses the latest research on use of soybeans in poultry feeding, including processing developments. **Page 164.**

FEED-POULTRY OPERATION—A Washington feed and poultry firm sees complete integration and top farm management as essentials. **Page 86.**

NEW FEED GRAIN LAW—A distinguished economist who is well known in the feed industry, Dr. L. C. Cunningham, provides a close look at the new feed grain law. **Page 98.**

FDA REGULATIONS—A top FDA official discusses current developments in the regulation of drugs in feeds, including use of concentrates containing new drugs. **Page 10.**

NEW PLANT—A new feed mill in Illinois offers flexibility and efficiency of operation. It's described on **page 108.**

FEED BUSINESS FUTURE—"The feed industry's future is just as bright as the future of animal agriculture," says a Quaker Oats official. For data and comments, see **page 36.**

POULTRY NUTRITION—The second of two reports on the Informal Poultry Nutrition Conference—this one on amino acid nutrition—will be found on **page 24.**

BUDGETING—Feed business managers will be interested in suggestions on goal setting and budgeting which are found on **page 64.**

SERVICING—Accurate service work for farm customers and dealers can boost feed sales. An example of this is outlined on **page 30.**

EGG PROGRAM—An Indiana feed firm's coordinated program for egg production and marketing is described on **page 26.**

'HOG MOTEL'—An Illinois feed firm tells how its hog "motel" feeding operation has worked out. **Page 119.**

—REGULAR FEATURES—

Abstracts from Abroad	22	Joe Brooks	126
Putting Research to Work	52	Worth Looking Into	132
Feed Service Bulletin Board	90	Convention Calendar	166
Feedstuffs Index	124	Feed Markets in Detail	180

Trade Caught Between Jaws of Opposing Prices

By FRED E. TUNKS
Feedstuffs Staff

It's almost a certainty that when feed men assemble in Chicago next week at the annual American Feed Manufacturers Assn. convention, one of the things they'll talk about is the squeeze that's been forced upon them and their customers by the opposing jaws of a price vise.

One of the jaws is in the form of drastic declines in broiler prices, unfavorable egg and turkey prices and a livestock market situation which has recorded prices of cattle, hogs and lambs at their lowest points of the year.

The other jaw of the clamp is the bullish ingredient market which has marked prices of major items as high as 50% over year-ago levels.

Prices Discounted

In some instances, according to reports, feed manufacturers have had to initiate special price discount promotions on certain feeds. And in oth-

(Turn to BETWEEN, page 179)

Purina 6-Month Earnings Increase

ST. LOUIS—Net earnings for the Ralston Purina Co. for the six months ended March 31 topped those for the same period a year earlier, a year in which earnings of the firm set an all-time high. Earnings for the half year totaled $9,773,093, compared with $9,348,468 a year earlier.

Net sales of the firm were also higher for the period, according to the financial statement just issued. Sales totaled $269,890,487 for the six-month period ended March 31, compared with $259,498,704 a year earlier.

Earnings before taxes were $20,732,093, compared with $19,823,468. Earnings per share of common stock rose from $1.44 in 1960 to $1.49, ac-

(Turn to PURINA, page 183)

AFMA Elects 10 Directors

CHICAGO—Ten leaders of the feed manufacturing industry have been elected to the board of directors of American Feed Manufacturers Assn., according to W. T. Diamond, AFMA secretary.

Mr. Diamond announced the official results of balloting, which took place during April among active members of the association in 48 states.

Five of the ten men are starting new terms on the board in 1961. They

(Turn to AFMA, page 183)

'Broiler Expansion May Right Itself, But It'll Take Time'

By ROBERT H. BROWN
Special Correspondent

ATLANTA — Where the broiler price situation is going is anybody's guess this week, but there are those in the industry who feel that problems of over-production are going to right themselves. After three hectic weeks of sliding prices, during which time poultry and feed people were plainly worried, a more optimistic feeling became apparent.

By the same token, though, people who watch the market closely are of the opinion "the adjustment" may take several weeks, or even several months.

"It's another one of those cycles the industry goes through every now and then," said one poultry industry spokesman. "This time the broiler people are in a better financial position to weather the storm; they've

(Turn to BROILERS, page 7)

Newton Firm Plans Automatic Feed Mill

BRIDGEVILLE, DEL.—Warren C. Newton, president of the O. A. Newton & Son Co. of Bridgeville, has announced that the company will start construction of a modern feed mill soon. The mill will be completely automatic in operation and has been designed with a production capacity of approximately 250 tons of feed per shift. It will be equipped to manufacture a full line of poultry feeds.

The mill has been designed by the company's industrial equipment department and includes Butler square bins in the basic design. The Newton company will act as general contractor.

These new facilities will be situated adjacent to the company's grain elevators located on the Pennsylvania railroad, north of Bridgeville. Nearly all ingredients will be received and stored in bulk and most of the feed manufactured will be delivered to poultry producers in bulk form.

(Turn to NEWTON, page 183)

Poultry Interests Oppose Freeman Bill; Approval Unlikely

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—Vigorous opposition from widespread poultry and livestock interests against the omnibus farm bill sent to Congress by the administration erupted here before the House Agriculture Committee this week.

The group set forth industry objections to the bid for broad grants of unstated goals in the Cochrane theory of supply-management, with potential complete controls over the farm economy.

After the poultry producers and national livestock leader P. O. Wilson completed their testimony in opposition to the administration bill, it has been learned that the House Agriculture Committee chairman no longer controls a majority of the Democrats on his committee. And, as amendments are made to the administration bill, it must be doubted that he can obtain approval of the Democratic majority of the committee to favorably report any bill.

Such major changes in the bill would strip Secretary Freeman of the broad discretionary power he has requested and leave the measure meaningless.

Similar conditions exist in the Senate, where Democratic members of the Senate Agriculture Committee are now said to be joining the GOP minority in opposition.

Passage Not Likely

Secretary Freeman is not persuading Congress to abrogate its authority, and as things stand, as of this week end, the Cochrane-Freeman bill may be slated for the scrap heap.

Congressman Cooley has sensed the opposition and now has slated other sub-committee meetings and then

(Turn to FARM BILL, page 8)

General Mills Makes Arrangements for Feed Milling in 4 States

MINNEAPOLIS — General Mills has completed arrangements with four different mills in as many states for the production and distribution of its Larro Surefeeds, it was announced by E. E. Woolley, general manager of the company's feed division.

The company purchased a feed mill

(Turn to GENERAL MILLS, page 179)

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Advise or Consent

ADDITIONAL REASONS TO BE more than a little wary of how things would work out under the "new frontier" agricultural program are illustrated in the following quotations from some citizens prominent in trail-blazing activities:

Secretary Freeman, in an address at the Animal Health Institute meeting, explained his plans this way:

"Under the procedures set forth in the proposed legislation programs could be developed to meet different needs and conditions by utilizing a variety of methods, many of which have already proved their usefulness. It would be the responsibility of the commodity advisory committee to adapt those methods to a program that would meet the needs of the farmers producing a commodity involved; and it would be the responsibility of the secretary of agriculture to consider, in addition, various inter-commodity relationships, potential effects on our economy as a whole, and the national welfare."

HOW WILL THE COMMITTEES be selected? The answer to this is provided in an analysis of the farm bill presented to the Senate by Sen. Allan Ellender (D., La.), chairman of the Senate Agriculture Committee:

"Subtitle A provides for the appointment by the secretary of agriculture of a national farmer advisory committee for any commodity or group of commodities whenever such action appears desirable. At least two thirds of its members would be appointed by the secretary from among producers nominated by county ASC committees. One member would be a consumer representative, and the balance would be appointed from farm organization nominees. These committees would be used by the secretary in developing supply adjustment and price stabilization programs for the commodities for which they were formed."

If the "new frontier" farm program becomes the law of the land, one can logically wonder just how representative these committees would be, and whether they would advise or whether they would consent to the ideas of Mr. Freeman's economic frontiersmen. These considerations are essential in judging the direction agriculture would likely move under the Freeman proposals.

Top of the Hopper

THE MANY READERS of this issue of Feedstuffs who will be in Chicago for the American Feed Manufacturers Assn. convention should not be disappointed in their search for new ideas, new products (at the industry show) and new rumors about industry changes. If the talks prove to be half as intriguing as the titles, we have in store some exceptional performance from the speakers' platform.

As some may already suspect, this extra-big issue got that way because of the proximity of its issue date to the big convention and show. It is, we believe, in tune with the time of the year when industry folks think big, plan big and want to know everything that's going on in the industry. The index on page one will be a big help to you in locating the special features. Thanks for having a look.

A MAN WITH A FEED firm which has reported considerable success in programs which involve use of concentrates and premixes and grinding and mixing at local levels says it is his observation that some companies have not moved rapidly enough in this direction. While this type of thing

(Turn to TOP OF THE HOPPER, page 179)

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

Nationally, starter feeds for chicks and poults appeared to be in the most favorable position this week.

As is expected at this time of year when pastures re-enter the feeding scene, feed men in most regions report that beef and dairy cattle feed business has dropped considerably.

In the major hog producing areas, feed prices, which have followed ingredient markets upward, have brought about changes in producers' feeding routines. Some manufacturers say hog farmers are cutting down on the supplement proportion of their rations and are increasing the amount of corn fed.

And high feed prices, opposed by low prices for broilers, eggs and turkeys, constitute a major factor with which manufacturers must contend.

This week's wholesale feedstuff price index of 89.6 is 0.3 under the week before mark, but it remains well above the year earlier index of 75.9.

The U.S. Department of Agriculture says the feed-grain index advanced 0.4 point to 64, which continues below 67.2 of a year ago.

Based on Chicago prices, the hog-corn ratio dropped from 15.9 to 14.7 during the week. This reflects a drop of 50¢ in hog prices and a gain of 5¢ bu. in corn. The hog-corn ratio was 15.3 a year ago. (Major feed market review and ingredient quotations on pages 180-182.)

Northwest

Although temperatures were higher at week's end, unseasonally cold weather in this region has supported feed sales. But cattle feed bookings have gone out and sales in both beef and dairy feed lines have taken their annual tumble.

As in other regions of the U.S., feed men are concerned about problems which have been created by high ingredient prices and relatively low prices for eggs, broilers, turkeys and hogs.

The task of maintaining a good volume of hog feed business seems to be the most formidable. This situation stems somewhat from producers having poor quality corn on hand. Cribbed corn that went in at high moisture last fall had to be fed when the frost left it this spring. This factor and higher formula feed prices provided feeders with reasons to cut back on protein supplements and expand corn feeding.

At least one manufacturer is attempting to offset the decline in hog feed sales with a price discount promotion. Another notes that he has absorbed some of the ingredient price increases and has held his concentrate and finished feed prices at a lower level than they would be under more favorable circumstances.

Chick and poult grower feed sales appear to be moving at a favorable pace.

Central States

Insofar as the movement of commercial mixed feeds is concerned this week was a good average one—no evidence of any material pickup, but neither was there any slump in demand.

By and large the month of April appeared to have been just a trifle better than the same month last spring. Shipping instructions were maintained at enough of a pace to keep a half week backlog. Practically all plants are operating on a 40-hour or slightly better week schedule.

In a few spots, there seems to be a slight broadening in the matter of buyer resistance on account of the price, but with signs of ingredient prices tapering off, formula feed prices are expected to settle down also.

Millfeeds lost as much as $5 ton in the week and some of the high protein constituents dipped from $1.50-3.50 ton.

Some of the feed manufacturers were wondering how long broiler plants could continue to operate with such a wide discrepancy as has been existing between the price of their product and the price of soybean meal. Some seem to feel that the top price has been reached on meal and now, if that commodity begins to bog down in a pricewise way and broilers begin to move upward at the same time, the situation will be much more optimistic than it has been for several months.

Southwest

Formula feed mixers experienced moderate running time in the Southwest. Some mixers reported difficulty in filling out the fifth day and indicated actual production was little better than a good four day operation. The movement of starter rations was still the most important portion of the volume.

The demand for pig and turkey starter rations was reported as good but the opinion was that this should improve somewhat throughout the month.

The reduction over the last few weeks in the movement of cattle feed has kept the mixers from getting much overtime run.

Some indicate that the feeding of hogs and cattle is still somewhat profitable even with the high cost of protein because of the low prices on grains and carbohydrates on the farm.

Broiler feeds are moving well although the end product prices are not improved.

Northeast

Manufacturers stepped up their running time as demand for formula feeds increased.

Dairy feeds continued to move in good volume, with a more apparent move to complete feeds. The trend will be further stimulated because oats in New York state are pretty well cleared up and corn supplies are below a year ago.

Mixers' offering of a low-protein feed (about 14%) to supplement the diet of grass-fed cows will take a little more time than usual to get under way because frequent rains have made pastures unusable. It is expected now that cows will be turned out to graze by about the middle of May.

Turnover in egg mashes was very good, and chick starter, growing and turkey feeds are mounting in volume with each passing day. Broiler feed demand, however, continues to lag.

Egg prices are holding up and producers are not culling their laying

(Turn to MARKETS, page 185)

Look for the answer first from Peter Hand Research

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Dr. R. A. Rasmussen—V.P., Research Director, Animal Div.—Served on faculty of 3 universities. Degrees in biochemistry and nutrition.

Dr. Myron W. Pasvogel—V. P., Dir. Research, Poultry Div.—Exper. in poultry, feed industries. Former Dir. Poultry Science Dept., U. of Ariz.

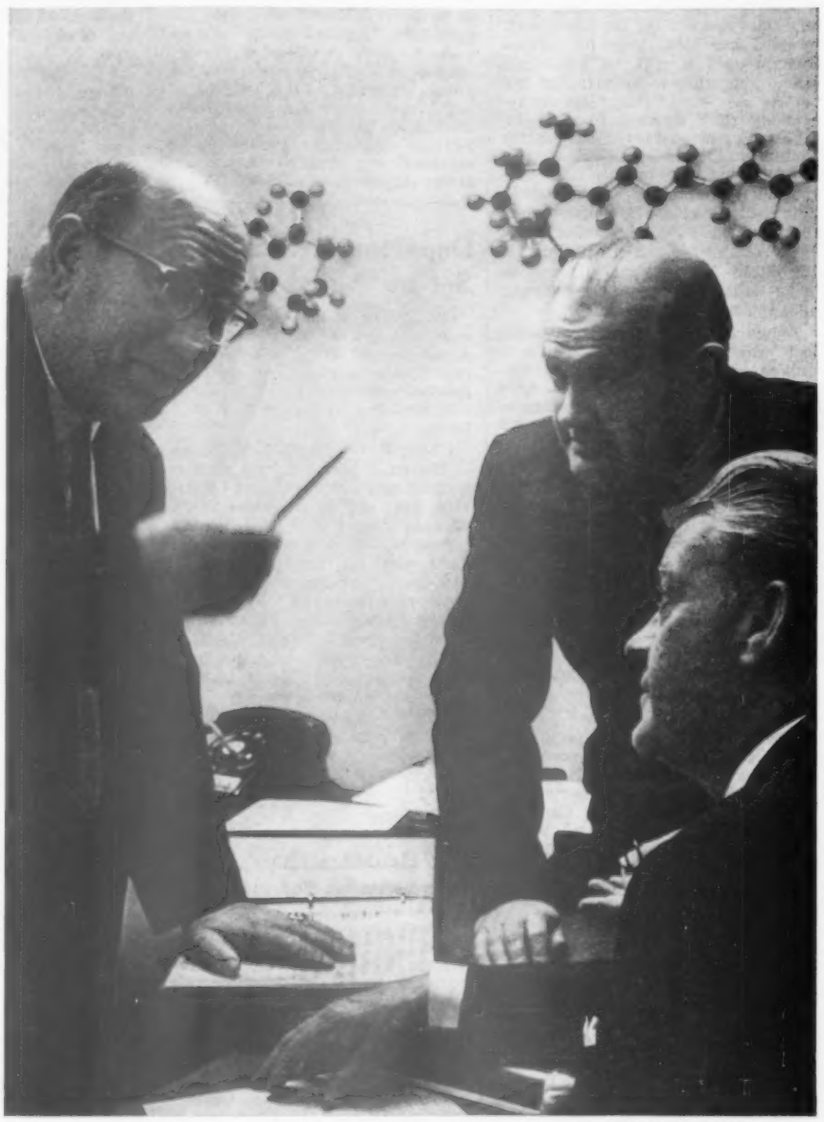
John R. Linsner—Dir. Tech. Services—Grad. U. of Ill. College of Agriculture. More than 12 years' exper. in all phases of feed formulation.

Richard W. Kerley—Coordinator of Sales, Production and Procurement. Degree in general agriculture. 12 years' experience in the feed industry.

Gerald J. Anderson—Tech. Services—M. S. degree in poultry nutrition. Was research technician at U. of Idaho and nutritionist in feed industry.

Dr. Heino Naelapaa—Coord. Spec. and Prod.—Was dir. of res. and nutr. in U.S. firms and abroad. Ph.D. nutr. and physiology, Bonn U., Germany.

Richard W. Kelley—Tech. Services—Was research asst. at U. of Mo. and at Kansas State. Master's degree in animal nutr., U. of Missouri.



Problem solving session—A Peter Hand customer (right) meets with Dr. Rasmussen for evaluation of his formulas and to discuss a palatability problem. Standing by is Harry White, Peter Hand Sales Mgr., with more than 20 years' experience in the feed and pharmaceutical fields.

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Cuba Out as Source, But Buffalo Maintains Imports of Molasses

BUFFALO—Even though imports of Cuban molasses have been shut off, the amount of the ingredient received here this year for animal feed production will be about the same as in other years, principal importers say. To do this, they are increasing their imports from or establishing new sources in Mexico, the Dominican Republic, Trinidad and other producing countries.

Though molasses receipts will be practically unchanged, shipments of the commodity will be imported at New York and barged to Buffalo via the State Barge Canal instead of being sailed through the Seaway aboard ocean-going vessels.

Industrial Molasses Corp., which last year brought in as much as a million gallons of blackstrap molasses on each of several ocean trips made by the Liberian-registered Amphitrite, in which the company has half ownership, won't bring the ship into the Great Lakes this year.

"With the possible exception of a small tanker late this season, our traffic will be handled completely by barge," Industrial Molasses' general manager, Joseph J. Colquhoun, said.

About 80% of the company's supply came from Cuba until late last summer, Mr. Colquhoun said.

Price Higher Now

Molasses demands a higher price now, and supplies are shorter .

The Amphitrite, in other Seaway seasons, dropped off part of its molasses cargo at Canadian ports and then proceeded to Buffalo. Now, with supplies diminishing, Industrial Molasses won't be serving Canadian markets, Mr. Colquhoun said. So the Amphitrite and other vessels will carry molasses to New York, where it will be loaded on barges for shipment to Buffalo.

Cooperative G.L.F. Exchange, Inc., plans to continue using the Seaway exclusively to supply molasses to its feed mill here because of the "considerable savings" that heavy cargoes allow, a spokesman said.

The British-flag tanker Athelduke entered Seaway locks and is expected in Buffalo with about 6,000 tons of molasses for G.L.F. Two or three more similar cargoes are expected this season, G.L.F. reports.

Kistner Found Guilty, Faces New Charges

SIOUX CITY, IOWA — Harold E. Kistner, Jr., 35, former president of the now defunct Northern Biochemical Corp. of Sheldon, Iowa, and two of his aides have been convicted of selling unregistered stock of the livestock feed additive firm in violation of federal law.

The corporation was found guilty of the same charge. A jury of 10 women and two men returned guilty verdicts in U.S. District Court here against Mr. Kistner, A. M. Biderman, Northern Biochemical's former bookkeeper, and Robert Smith, company salesman.

F. E. Van Alstine, U.S. district attorney, said the maximum penalty on each count is five years in prison or $5,000 fine or both.

Mr. Kistner has also been charged with aiding and abetting Mrs. Burnice Geiger, 58, in the $2 million embezzlement from her father's bank in Sheldon. The 22-count federal indictment linked Mr. Kistner with Mrs. Geiger, who is now serving a 15-year sentence, in the plunder of the Sheldon National bank, the largest bank embezzlement on record in which the bank eventually failed. Mrs. Geiger was the principal investor in Northern Biochemical Corp.

FEED GRAIN SIGN-UP CALLED 'EXCELLENT'

WASHINGTON—The U.S. Department of Agriculture's first official report on sign-up under the 1961 feed grain program, through April 21, showed that 102,786 farms had signed up to divert 2,158,859 acres this year from their 1959-60 average corn and grain sorghum plantings of nearly 5 million acres. This was called an "excellent start" by USDA officials.

The first report was called limited since many counties and some states had not started the sign-up or had reported only limited numbers of farms signed up as of April 21.

Department Changes Set by Allied Mills

CHICAGO—A number of management changes in the manufacturing department of Allied Mills, Inc., will take place during the next few months, according to F. H. Blough, vice president in charge of manufacturing.

Elster B. Copeland, who has been in charge of both the feed plant and soybean processing plant at Guntersville, Ala., will be transferred to the Chicago office this fall where his activities will be devoted principally to the soybean division, Mr. Blough said. Mr. Copeland came with Allied Mills about two years ago with experience in the grain and feed business.

This change will enable Harris Lyon, who currently is handling soybean operations, to devote full time to production problems, and he will be given additional responsibilities in the manufacturing department, the announcement said. He is now in charge of production activities for the Allied western and southern plants. He started with the company in 1942 in the Chicago office and served two years as plant manager of the Peoria plant before his present assignment.

Succeeding Mr. Copeland in charge of all manufacturing operations at Guntersville will be Joe E. Blough, presently plant manager at Fort Wayne. Mr. Blough started with the company in 1932 and worked in the Chicago office and the Memphis plant prior to going to Fort Wayne in 1946.

Leonard Chittenden, plant manager at Omaha, will succeed Mr. Blough as plant manager at Fort Wayne. He came with Allied Mills at Omaha in 1957 and served as office manager and purchasing manager prior to his present position.

Succeeding Mr. Chittenden at Omaha will be Paul Cantrell, who started with the company at Fort Wayne in 1948. He served as plant accountant for several years and assistant plant manager until he was transferred to the Chicago office in 1959. For the past two years, he has served as internal auditor on special assignments which has taken him to all of the company feed plants. Mr. Cantrell has already taken up residence in Omaha, the Allied Mills announcement said.

Leucosis, Pullorum on Increase in Georgia

ATHENS, GA.—Leucosis and pullorum diseases are definitely on the increase in Georgia, according to the monthly report of Dr. Charles N. Dobbins, Jr., head of the veterinary department of the extension service.

Cases of pullorum have shown an "alarming increase" he said, while leucosis shows a "very large increase."

The report is based on findings in the more important poultry areas of Athens, Gainesville, Canton, Cedartown, Dalton, Swainsboro and Tifton.

Increases are also being noticed in coccidiosis, fowl cholera, nutritional deficiencies, encephalomyelitis, hemorrhagic disease, blackhead and fowl cholera, the report said.

Egg Prices Sharply Lower; Broilers Off ½c in Southern Area

WASHINGTON—Egg prices were off sharply and broilers declined another ½¢ to mostly 13¢ lb. in the southern growing areas during the week ended May 3, according to poultry reports from the U.S. Department of Agriculture. On the bright side was a strong turkey market.

In midwestern and eastern terminals large eggs closed 1¼ to 6¢ lower than last week. Mediums and small were 2 to 5¢ lower and standards and checks declined 1¼ to 3½¢ at Chicago and New York. Grade A large whites were bringing 34@35¢ delivered in Chicago.

Despite lower retail prices and plentiful stocks, consumer demand was reported lighter in most sections, USDA said.

Steady Undertone

The ½¢ decline in broiler prices in the southern growing area brought the level to mostly 13¢ at the beginning of the period. At the close of the week, May 3, there was a steady undertone as supplies were readily cleared at most points by a good ready-to-cook demand, USDA said. In Delmarva prices averaged ½¢ lower at the period's outset. However, for the balance of the week, a sharp recovery was made and prices closed 1¢ higher than the previous week with most sales at 15½¢. Available offerings in this area were well cleared and in instances were less than adequate for an active processing demand.

Trading of frozen ready-to-cook turkeys in the terminal markets exhibited strength during the week with firmness evident at the close. Chain store inquiry and demand for fryer-roasters improved with warmer weather at hand and the closeness of Mother's Day and advance buying for the Memorial Day holiday has stimulated demand for toms over 20 lb. by institution and hotel suppliers.

Eastern market prices were ½ to 1½¢ higher for hens and unchanged to 1¢ higher for toms with no change in fryer-roasters. At Chicago hens ranged ½ to 1¢ higher to 1¢ lower. fryer-roasters were ½¢ higher and toms were ½ to 1¢ higher.

Galvin Report on Winter Wheat Crop Close to USDA's

CHICAGO—The first private estimate on the growing winter wheat crop has been released by C. M. Galvin of Francis I. duPont & Co. It matched up rather closely with the April 1 estimate made by the U.S. Department of Agriculture at 1,086,917,000 bu., which compares with the official one a month earlier at 1,098,735,000 bu.

Last year's government estimate showed 1,117,131,000 bu. and the 10 year average is only 840,244,000 bu.

Considerable significance was attached to the report in that it revealed a small acreage abandonment on account of winter kill and other causes—the figure being only 4.1% vs. 8.1% last year and would leave 42,060,000 acres for harvest. The latter figure, incidentally, is about 1,500,000 acres greater than the amount harvested in 1960. Condition of the growing crop was set at 88% of normal; this compared with the same percentage last year and the 10 year average of about 85%.

Mr. Galvin's figure for Kansas was 263,650,000 bu. and about 5 million over the USDA compilation for a month earlier, while for Oklahoma he showed 113,458,000 bu. against 115,702,000 bu. by the government agency as of April 1. Except for some areas in extreme western Kansas, Mr. Galvin says that moisture conditions in the heavy producing sections of the Southwest are generally good.

Minneapolis Firm Urges Opposition To Rail Proposals

MINNEAPOLIS — A bulletin reminding eastern feed manufacturers of a hearing coming up May 16 at Chicago on proposed changes in rail rates for grain and grain products shipped east of Chicago has been issued by Fruen Milling Co., Minneapolis.

Fruen officials explain that the changes, proposed by eastern railroads and the Illinois Freight Assn., would increase the minimum car shipment of grain and grain products from the "traditional" 20 tons to 25 tons. Also, they say, rates for the proposed minimum shipment of 25 tons "would be increased by 2½¢ cwt. over existing rates." And, "the proposals provide for a rate of 5½¢ cwt. under the 25-ton rate for a minimum of 40 tons."

Fruen officials claim in their bulletin that "this is another freight adjustment which discriminates against the smaller business, and favors the giants in the grain industry. We think all feed manufacturers will be hurt by these proposed changes, and the smaller businesses will be placed in a very serious position."

"Can't Handle 40-Ton Car"

The bulletin further declares: "In the eastern states there are a great number of feed dealers, feed manufacturers and feeders whose facilities are based on the historic 20-ton car. Almost every town in the East of any consequence has at least one such operation. This type of facility simply can't handle a 40-ton car of grain or grain products for several good reasons: It lacks the room, it can't tie up the required capital and it cannot so limit the variety of its inventories.

"If the changes become effective, the operator of such a business would be forced to use trucks to move the 20-ton quantities he is geared to."

Fruen explains that the stated purpose of the proposals is to return to the rails tonnage now transported by trucks. "It is our belief that they would not accomplish the desired result," company spokesmen state. "On the contrary, we feel it likely that should these changes be adopted, the tonnage of trucked grain and feeds would actually be increased."

Urges Opposition

Fruen has urged recipients of its bulletins and others to prepare evidence opposing the proposed changes and send to: E. V. Hill, chairman, Joint Public Hearing, Ball Room, Midland Hotel, 172 Adams St., Chicago, before the May 16 hearing.

Because 125 copies of each statement are necessary for presentation during the hearing, Fruen has offered its reproduction facilities to any manufacturer in need of such service.

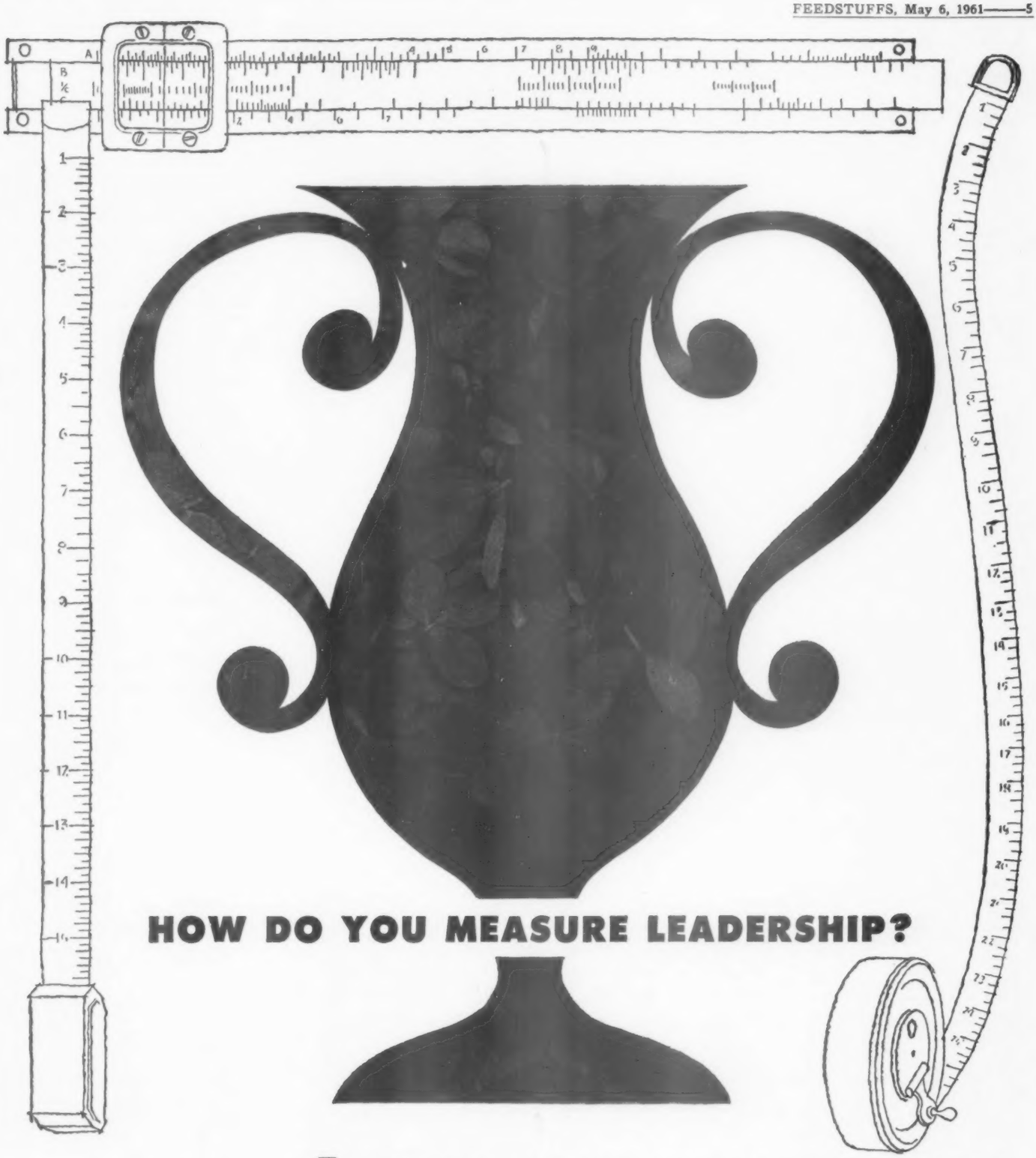
2 Missouri Feed Clubs Plan Joint Golf Outing

KANSAS CITY—A joint golf outing between the Kansas City and St. Joseph Feed Clubs on May 18 at the Moila Country Club in St. Joseph has been announced by Robert G. Coughenour, Rodney Milling Co., president of the Kansas City club.

Golfers may tee off between noon and 2 p.m. A cocktail hour will start at 5:30 with dinner scheduled for 7 p.m. Prizes will be awarded to both golfers and non-golfers.

A bus is being chartered for non-golfers, leaving the Auditorium Plaza garage at 4:30 p.m.

MANEY BROS. MILL & ELEV. CO.
Minneapolis, Minnesota
Distributors in the Upper Midwest States for
SMALL'S DEHYDRATED ALFALFA MEAL



HOW DO YOU MEASURE LEADERSHIP?

No matter what your standards, we invite you to "take the measurements" of Small's Dehydrated Alfalfa. Here are some of the standards you may want to apply:

EXPERIENCE . . . Small's Dehydrated Alfalfa was first produced in 1932 in Neodesha, Kansas. This was the beginning of the dehydrated alfalfa industry.

PRODUCT . . . Archer-Daniels-Midland, Alfalfa Division, guarantees in writing that your order of Small's Dehydrated Alfalfa will match your specifications.

PERFORMANCE . . . Small's record of performance in the fulfillment of contracts in accordance with grade purchased is unsurpassed.

FACILITIES . . . Archer-Daniels-Midland has the most modern facilities in the industry for harvesting, dehydrating, analyzing, storing and shipping dehydrated alfalfa.

ACCEPTANCE . . . Small's Dehydrated Alfalfa is the brand preferred by quality-conscious feed manufacturers.

Weigh the facts and you'll use Small's Dehydrated Alfalfa, the brand for "feeds with a future."

FOR FEEDS WITH A FUTURE
Small's
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ARCHER-DANIELS-MIDLAND CO.
ALFALFA DIVISION
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USDA Tells Details On Redeeming Feed Grain Certificates

WASHINGTON — Additional details on redemption of feed grain certificates earned by farmers for diverting corn and grain sorghum acreage from production this year under the feed grain program were announced this week by the U.S. Department of Agriculture.

Department officials pointed out that the certificates, which are expressed as a dollar value, may be redeemed by farmers in grain or a cash equivalent of grain. Producers who wish to receive cash instead of grain for their certificates may ask the Commodity Credit Corp. to act as their agent in marketing the certificates. CCC will pay the producer the full face value of the certificate in cash through the county Agricultural Stabilization and Conservation office if it is presented within 30 days of issuance.

USDA officials say they expect that most farmers will present certificates to the county ASC offices and obtain cash. County offices are now prepared to make such cash payments on certificates issued under the advance payment provisions of the program, the department said.

Certificates held by producers may be redeemed in CCC-owned grain stored either in CCC bin sites or in commercial warehouses, as determined by the county committee. Grain will be valued at the market price for redemption purposes.

Corn, oats, barley and grain sorghum in the CCC inventory will be eligible for redemption as made available locally, USDA said. Producer redemptions may be in CCC-owned grain in the county in which the certificate was issued or in the nearest county in which grain made available for redemption is stored. CCC will not ship grain into a particular county or make available specific stocks of CCC-owned grain for certificate redemption, USDA said.

Redeem Support Grain

Certificates issued to a producer may also be redeemed in grain put under price-support loan by that producer, the announcement said. Under this provision, CCC would take ownership of the loan grain and then redeem the certificate with that grain. This would apply to farm-stored grain under loan and grain under loan stored locally in commercial facilities. It would apply to current loans, reseal loans and extended reseal loans. This grain also would be valued at the market price for redemption purposes, according to the department.

USDA says, "On warehouse-stored loans, producers may not purchase less than the quantity of grain under one warehouse receipt. On farm-stored loans, partial purchase of grain will be permitted in those areas where partial repayment of loans may be made.

"The certificates also are negotiable, but only producers who receive them for diverting acreage under the

(Turn to CERTIFICATES, page 184)

Lewis V. Graves of Burrus Feed Mills Dies

FT. WORTH, TEXAS—Lewis V. Graves, 59, director of purchases for Burrus Feed Mills, Ft. Worth, died May 1 in a Ft. Worth hospital where he had undergone surgery two weeks before.

Mr. Graves had been associated with the Burrus firm in Ft. Worth for about 20 years. He was born in McKinney, Texas and was a graduate of the University of Texas.

Survivors include his wife, a daughter and a sister. He was a first cousin of Jack P. Burrus, president of Burrus Mills, Inc., Dallas.

MILLING TECHNOLOGY BUILDING—The new milling technology building at Kansas State University will be dedicated May 18. The building includes new facilities for the department of flour and feed milling industries. Included are facilities for the feed technology program adjacent to the pilot feed mill dedicated in 1955.

To Dedicate New Milling Tech Building

MANHATTAN, KANSAS—A new milling technology building—providing the first adequate facilities for the department of flour and feed milling industries—will be dedicated at Kansas State University May 18.

Feed manufacturers and others interested in feed tech and flour milling programs at K-State are invited to attend the dedication ceremonies. The ribbon cutting and tours of the new building are set for the morning of May 18, and the dedication ceremonies will be presented in the afternoon. Also, there will be a special program in the morning to acquaint high school students with the milling technology program. (Feedstuffs, April 29)

Orville Freeman, secretary of agriculture, will give the principal address at the dedication.

The new milling department facilities include a new pilot flour mill and new laboratory, teaching and office facilities. These replace the flour milling and other facilities lost in a $1.5 million fire back in 1957. The department lost all of its facilities, except for the pilot feed mill and a pilot bakery, in the fire, and the feed tech and other programs have been handicapped by inadequate laboratory, office and classroom facilities.

Now, however, the entire department has a complete complex of facilities for its programs. The feed tech program has additional laboratory and teaching facilities adjacent to the pilot feed mill which was built through industry contributions and dedicated in 1955.

The feed technology program, providing college training for men planning to enter various phases of the feed and allied industries, was started in 1951. It is expected that the milling industries department, with the new facilities, will now be in position to provide still better teaching and research programs in feed technology as well as flour milling.

Dr. Glenn Beck, dean of agriculture at K-State, will preside at the dedication ceremonies at 1:30 p.m. at the field house. The program will include recognition of contributors who helped make possible the new milling technology building and facilities. Gov. John A. Anderson, Jr., of Kansas will speak briefly. Whitley Austin, chairman of the state board of regents, will present the building, and it will be accepted by Dr. James A. McCain, K-State president. An address, "The New Look in Agriculture," will then be given by Mr. Freeman.

Additional tours of the new building will follow.

Also to be dedicated will be the Oscar Straube Memorial Scholarship House at the university. The student-operated house, for the housing of milling department students, was established in memory of the late Oscar Straube of Kansas City, feed industry leader. It was made possible through contributions by the Straube family and firms in the industry.

O. A. Cooper Co. Notes Sales, Earnings

HUMBOLDT, NEB.—Net income of The O. A. Cooper Co. for 1960 was $74,537.25, according to a financial statement issued by the firm.

The firm, which manufactures feeds as part of its operation, listed 1960 sales of $5,025,016 82 and gross profit of $1,342,677.51. Net profit on operations before income taxes was $136,146.78, according to the financial statement.

This annual report noted that the firm had constructed a new, automatic feed mill at Cozad, Neb., during 1960 and that it would increase the firm's mill capacity 50%. It was pointed out in the report that the firm installed a protein block machine in its Humboldt, Neb., plant in 1960 and that it operates 24 hours per day trying to keep up with demand. The firm said that another machine was installed at the new Cozad mill.

Also reported were: Opening of a company-owned warehouse at Maryville, Mo.; modernized and enlarged grain storage facilities at Humboldt, Neb., and new grain storage for 90,000 bu. at Odell, Neb. The Cooper report also said that one of the private warehouse operators handling Cooper products added new bulk handling equipment and warehouse space.

NBC to Host Food Editors for Tour

RICHMOND, VA.—Food editors from several leading national publications will be the guests of the National Broiler Council for a tour of Georgia's broiler area May 10-12, according to announcement from the council.

Local Georgia food editors will also join the tour group, NBC said.

Among those who have accepted NBC's invitation are: June Towne, American Home; Gloria Spitz, Living for Young Homemakers; Helen Mills, Redbook; Sigana Earle, Seventeen; Frederica Beinert, What's New in Home Economics; Clementine Paddleford, This Week; Grace Hartley, Atlanta Journal; Patricia Deaton, Atlanta Constitution; Jean C. Thwaite, Columbus Enquirer, and Lena Sturge, The Progressive Farmer.

Highlights of the tour, according to NBC, will include visits to a breeding stock farm, a feed mill, a hatchery, a growing operation and a processing plant.

This is the second such tour conducted by NBC for food editors. In 1958 a similar group visited the broiler area in Maine.

Wes Paris, chairman of NBC's public relations committee, is the tour chairman and Georgia's members of the NBC board will be special hosts and guides during the tour, according to the announcement.

SMALL MILL WORKSHOP ANNOUNCED

KANSAS CITY — A Small Mill Workshop, designed to provide pertinent feed mill operating information for operators of smaller mills, has been scheduled for Thursday, Sept. 14, at the Continental Hotel in Kansas City. The one-day workshop will follow the regular Feed Production School, to be held Sept. 11-13.

Phil Wake of J. H. Wake Feed Mill, Oskaloosa, Iowa, and E. R. McCollester of Consumers Cooperative Assn., Kansas City, have been named co-chairmen of the workshop and are now developing program plans. The workshop will be held primarily for custom millers, concentrate mixers, local retail feed manufacturers, feedlot mill operators and others interested in small mill operation. The workshop is expected to draw particular interest because of trends toward more feed manufacturing and mixing in smaller plants closer to points of use.

The program will include discussions of such things as grain processing, mixing, molasses application and bulk delivery, plus food and drug regulations and certain topics relating to feeding and milling economics, including grain banking. It also is noted that the three-day Production School will include special milling information for operators of smaller plants.

Chemical Spokesman Says 'Atmosphere of Understanding' Needed

WASHINGTON — A "fair chance" for systematic development of food production and processing techniques in "an atmosphere of understanding" was called for here by a representative of the chemical industry in an address at a breakfast meeting of the American Association of Agricultural Editors.

B. F. Bowman, assistant general manager, agricultural division, American Cyanamid Co., New York, said it is essential that this "atmosphere" be "free of prejudice, suspicion and harassment," and that the chemical industry, which includes the manufacture of some feed additives, is confident it has the support of agriculture and also of the consumer—if he knows the facts—in its technique development efforts.

"Producing food for the much greater populations of the future is possible," he said, "provided it is not hindered by political restrictions under the guise of law."

Mr. Bowman's remarks were related to the new Food Additives Amendment enacted in 1958 and the public anxiety with which it has been associated.

"No Sacred Cow"

He said the chemical industry, of which he and his company are a part, "has no wish to be the sacred cow on the food landscape, above reproach and immune to criticism. . . .

"In today's complex of production, distribution and marketing, the alliance of chemicals and food is imperative. Given that necessity, and the dangers it implies, our only recourse is in reasonable laws to regulate the food-chemical alliance and in the insistence of industry upon scrupulous research and diligence in prescribing the safe usage of all toxic products."

Mr. Bowman said the chemical industry looks to the nation's farm editors for aid in presenting the facts to the American people. These facts, he indicated, show that "no consumer has just cause to be worried about food additives. . . . Probably all chemical additives in current use—whether for direct inclusion in foods or indirectly on growing crops—are safe, provided they are used as the

(Turn to UNDERSTANDING, page 184)

BROILERS

(Continued from page 1)

had several pretty good years when they've made money and they can ride this one out for some time to come."

Told that reports were circulating that some operations were being forced into bankruptcy, the same observer said, "I don't think it is that serious by a long shot!" He said he had not heard of a single bankruptcy case being filed or even contemplated because of the price situation.

"No Panic"

Because of the improved financial position of most people in the business, this same source said "there is no panic. Sure everyone is interested in the market, and they'd like to see it improved."

The test of what the future has in store for the broiler industry probably will come this fall. It is generally conceded that during the next few months markets will be heavy with offerings.

Indications that the market may be strengthening a bit, however, were seen in the fact that toward the end of this week prices still averaged a fraction above 13¢ average.

Prices dropped to a low of 13¢ last week, which is around 2¢ lb. less than what is generally considered the cost of raising.

The 13¢ price held over the week end and as the market resumed trading this week, it was still the price, except for a few scattered reports of 12½¢ being paid. This price was reported from other markets in Arkansas, Mississippi and Alabama.

The 13¢ rate was so close to a record low of 12½¢ reported three years ago, that it was for a time feared a new low mark might be set.

Meanwhile, grain dealers and brokers reported mills were buying very much on a hand-to-mouth basis until they see which way the broiler market turns. However, mills were continuing to run on previously established schedules, simply because the large crops of birds must be fed.

Buying ahead by mills depending on the poultry business was very slow.

Chick Cancellations

Cancellations of chick orders have been underway since the large replacement figures were announced which established a trend of overproduction, one source said. The cancellations were based on replacement figures rather than recent prices, it was thought.

Late spring has had an adverse effect on the market, too. Cool weather has lasted much later than usual. The arrival of warmer weather should be an aid to stabilizing prices.

The present price dip came at an unusual time of the year, as Richard Waldrip, general manager of the exchange at Gainesville, pointed out. Last year at this time broilers were bringing 18-19¢ lb., he said.

Mr. Waldrip said he believed the flooded condition of the market may continue for several more weeks. He noted that the birds are ready for the market and, as everyone knows, they have to go.

Naturally, said one observer, there has been a lot of talk about the "cycle" the market is going through at this time. "I'd say about 2% of the people are the ones yelling the loudest," he said.

There is a very strong feeling, too, that the present price dip may have been a good thing for the industry, in that it will emphasize the warning of a few weeks ago regarding overproduction.

The Southeastern Poultry & Egg Assn. has warned that it was viewing "with alarm" the number of birds being produced. The association urged growers to cull their flocks carefully and to market only the better grades. Also the association suggested diverting hatchery eggs to commercial use and emphasized that good markets are available in the breaking fields.

While there is a feeling that publicity about the government buying broilers for school lunchrooms and the opening of markets in West Germany to American poultry have stimulated production, the trade is inclined to discount some of this talk. They point out that these announcements were made only a few weeks ago and the broiler houses were already filled to capacity at the time of the announcements.

The school lunchroom buying failed to materialize in the proportions expected. The government bought only 500,000 lb. Since schools will be out for the summer shortly, the school buyers halted purchases until later in the year.

Indicative of the over-production is the U.S. Department of Agriculture report which said production of broiler and layer type chicks during March showed a 21% increase over the same month last year. Broilers were up 18%.

Leaders in Washington

The past two weeks have been rough ones on poultry people. The price dip came at an inopportune time because most of the top men were in Washington for the committee hearings on the "omnibus" farm bill.

Another indication that leaders expect the market to adjust itself was seen in the fact that the goings-on in Washington were getting more attention than the price situation. Nearly every state association official was in Washington for the hearings. Top company officials were there, too.

It should be pointed out that most of the people in the business realize they are in a risk trade and are prepared to ride out the crisis "if it does not take too long," as one man put it.

If the market improves by fall—and those contacted by Feedstuffs this week feel it will—then the industry will have completed the cycle in fairly good shape.

"The worst thing we can do right now is to panic," said an industry official.

Industry leaders were concerned over the break at a time when the farm bill hearing was in progress in Washington. Most of them are against governmental controls for poultry and are of the opinion the dip would give proponents of poultry controls the ammunition they want.

Bargains in Stores

Meanwhile, the chain stores as well as some of the larger independents took advantage of the drop in prices to ballyhoo bargains. In Atlanta, some stores promoted fryers at a low of 19¢ retail. Others were selling them at 23¢, a drop from 27 and 29¢, the previous price of week end specials. Better grades were still selling at 35-43¢, however.

No reports of large scale abandonment of houses has been received in Atlanta, the Southeastern Poultry & Egg Assn. reported. "It's just too early for anything like that," said Gordon Sawyer of SEPEA.

"Most of the people we talk with are in good financial position. They have resources they can fall back on. It's just too early. You must remember this is a cycle the industry is going through. Most growers have made money the past few years, and knowing they are in a 'risk' business they have been prepared," he said.

"It's our guess that the situation is going to right itself, given a chance," he added.

PLAN NEW FEED MILL

BURNS, KANSAS—A new custom feed mill, complete with grain bank facilities, will be built here for Vestring Bros. The contract was awarded recently to Dana Clark Equipment Co., Inc., Wichita. The mill will have a capacity of 100 tons per eight-hour day and will cost approximately $110,000.

NEW COLUMN: 'ABSTRACTS FROM ABROAD'

What have Russian researchers learned about trace minerals?

What strange ingredient have the Japanese found of value for feeds?

The answers to those questions may be found on page 22 of this issue in a new, exclusive Feedstuffs column, "Abstracts from Abroad." On that page the reader will find an introduction to the new column, which is expected to gain wide interest among nutritionists, and to the author, Dr. Rudolph Seiden of Kansas City, an internationally known consultant.

"Abstracts from Abroad," which will appear monthly as a regular Feedstuffs feature, will present abstracts from foreign technical papers, periodicals, books and other publications.

Honeggers' Names Vice Presidents

FAIRBURY, ILL.—The election of Robert S. Slayton and Gordon L. McKinney to vice presidents of Honeggers' & Co., Inc., and the appointment of Walter H. Lloyd as advertising manager, have been announced by E. F. Dickey, president of the Fairbury, Ill., feed manufacturing firm.

Mr. Slayton, vice president and general sales manager, who has served as general sales manager since August, 1960, has been associated with Honeggers since 1955. Joining the company as turkey feed manager, he has also served as a division sales manager and assistant general sales manager, Mr. Dickey stated.

Following his graduation from the University of Illinois College of Agriculture, Mr. Slayton taught vocational agriculture in Illinois for 4½ years, and served four years as farm advisor in Scott and Mason counties in Illinois.

He also served in sales and service work with one of the Midwest's largest turkey hatcheries and for two years prior to joining Honeggers, managed a large cattle and hog ranch in Indiana.

Mr. McKinney, vice president-Lincoln operations, joined Honeggers in 1958 as head of the production and scheduling section. Later the same year he was promoted to the position of production manager for all of the company's feed manufacturing plants. In August, 1959, Mr. McKinney was promoted to general manager of Honeggers' Lincoln, Neb., operations.

Mr. McKinney majored in business administration while attending the University of Minnesota. Before joining Honeggers, he was associated with a milling concern in Minneapolis.

Mr. Lloyd was previously associated with Honeggers for more than five years. He was formerly employed for three years by the company's feed and farm building division. He also spent two years in close association with Honeggers, serving as general manager of Record Advertising Agency, which handles the Honegger account.

A University of Illinois graduate with a B.S. degree in agriculture, Mr. Lloyd was employed by a Danville, Ill., feed firm for three years before joining Honeggers.

R. S. Slayton G. L. McKinney

Report Shows Trade Has Expanded Broiler Credit from Year Ago

ATLANTA — Evidence indicating that over the past year broiler production credit from feed manufacturers has tended to expand while bank loans have declined to some extent is contained in a research department report issued May 1 by the Federal Reserve Bank of Atlanta.

This report, which covers both trade and bank credit for broiler production in six southern states, says credit advanced by selected feed manufacturers in the Sixth Federal Reserve District increased further during March, and outstandings in March, 1961, also exceeded those of a year ago, primarily because of large gains which occurred in producer accounts.

The report shows also that while broiler production credit outstanding at selected district banks was slightly larger at the end of March than a month earlier, the March, 1961, tally remained sharply under the amount of a year earlier. Also noted is the fact that new loans by selected banks for broiler production declined in March. This drop was offset, however, by a slowdown in repayments.

The Federal Reserve Bank of Atlanta reported also that dealer accounts at surveyed banks reflected a slight decline in broiler production credit outstandings, but direct to producer accounts showed a gain.

Texas Credit Group Elects Robert Morrison

FT. WORTH, TEXAS — Robert F. Morrison has been elected president of the Texas Feed Manufacturers Credit Assn., a group of credit representatives for feed and fertilizer manufacturers doing business in the southwest area of the U.S.

Ken Akins, credit manager for the Burrus Feed Mills, Saginaw, Texas, was elected secretary-treasurer.

Mr. Morrison, formerly secretary-treasurer of the association, is credit and office manager for the southwest region of General Mills, Inc., feed division in Ft. Worth.

The association has extended an invitation to all feed and fertilizer manufacturers in the Southwest to join the group, which meets regularly each third Thursday at the Statler-Hilton Hotel in Ft. Worth, under the sponsorship of the Ft. Worth Chapter of the National Association of Credit Management.

Asks Bacitracin O.K. In Zoalene Feeds

WASHINGTON — The Food and Drug Administration has announced the filing of a food additive petition by Dow Chemical Co. to provide for use of bacitracin in feeds containing the coccidiostat zoalene.

FDA said Dow proposed amending the food additive regulations to provide for use of manganese bacitracin, zinc bacitracin and bacitracin methylene disalicylate in zoalene-medicated feeds at levels from 4 gm. to 50 gm. per ton of feed to promote growth and feed efficiency in chickens.

Okay on Ronnel for Dairy Heifers Asked

WASHINGTON — A food additive petition has been filed with the Food and Drug Administration by Dow Chemical Co. asking issuance of an order amending a regulation providing for use of ronnel, systemic insecticide, in feed.

The petition asks an order to provide for use of ronnel in medicated feed for dairy heifers up to 60 days before first calving.

Jamesway Buys Makomb Line

FAIRBURY, ILL. — The James Mfg. Co., Ft. Atkinson, Wis., has purchased the livestock and poultry equipment manufacturing business of Honeggers' & Co., Inc., conducted at Taylorville, Ill., under the Makomb trademark. This was announced this week in a joint statement issued by C. A. Hanson, president of the James firm, and E. F. Dickey, president of Honeggers', feed manufacturer at Fairbury, Illl.

The Honegger grain bin and bulk feed tank business also conducted at Taylorville will be continued by Honeggers'. Tools, dies, jigs and fixtures for the livestock and poultry equipment will be moved to the James plant at Ft. Atkinson as soon as possible in order to make room for the anticipated expansion in the tank and bin business. Honegger grain bins and bulk feed tanks will be merchandised by the James organization.

James, described as the nation's largest manufacturer of livestock and poultry equipment, milking machines, incubators, power-choring equipment, etc., will continue to manufacture the Makomb line, and Honeggers' will purchase and merchandise the Makomb equipment plus the full and complete line of James hog and poultry equipment.

Mr. Dickey explained that one of the primary reasons for this move on the part of Honeggers' is to improve the manufacturing service and delivery service to the firm's dealer organization and to make available to its dealers through the facilities of James completely automated power-choring equipment. This, he stated, is becoming increasingly important as the size of farming units is being rapidly expanded across the country.

The James company has been a leader in its field for over half a century with present plants and distribution throughout the world.

(The above news supplements an earlier story on page 174.)

Northwest Feed Men Okay 7 Scholarships

MINNEAPOLIS—Seven $300 scholarships for 1961-62 at the University of Minnesota Institute of Agriculture have been approved by the board of directors of Northwest Feed Manufacturers Assn.

According to R. A. Blomfield, president of the association, one scholarship will be awarded in each of the following areas: Animal husbandry, poultry husbandry, dairy husbandry and agri-business. The remaining three scholarships will be designated by the Institute of Agriculture Scholarship Committee. The association specified that the scholarships are for male junior or senior students.

It was noted that the association's directors had decided to discontinue a scholarship in the school of journalism as a memorial to the late Harvey Yantis, who was editor of Feedstuffs, but that one of the $300 scholarships should have the title "The Harvey Yantis Memorial Scholarship."

Mr. Blomfield said that the Northwest Feed Manufacturers Assn. also has approved $150 for printing of the abstracts of the nutrition short course at the University of Minnesota Institute of Agriculture and $150 for the livestock judging team at the institute.

NEW COLORADO FIRM

HASWELL, COLO.—Kiowa Grain, Feed & Seed Co. has filed articles of incorporation listing $95,000 authorized capitalization to buy and sell grain, hay, feed and produce. Incorporators and initial board of directors include Donley Cronkhite, Robert C. Hetzer and Robert Ohrman.

Iowa Reports Swine Plan Raising 200-Lb. Pigs in Five Months

AMES, IOWA—A swine program developed at Iowa State University gets pigs to 200 lb. in five months with 3 lb. of feed per pound of gain, according to Virgil W. Hays, animal husbandman.

Dr. Hays said that the test pigs averaged 200 lb. at 146 days of age. Some individuals came off the test weighing 200 lb. at 130 days of age.

The 324 pigs averaged 20 days of age and 12 lb. of body weight at weaning. They were reared in confinement on three different rations. All pigs were fed a starter ration for the first six weeks after weaning, a grower diet for the next six weeks, then a finisher ration until they reached market weight of 200 lb. The finishing period also required an average of six weeks. Each ration was prepared to supply the pigs' needs for each growth phase involved.

"At 56 days of age the pigs averaged 40 lb. and were gaining at the rate of 1.2 lb. a day on an economical ration," Dr. Hays said. "They weighed 46 lb. at the end of the starter phase.

"During the six-week grower phase, the pigs gained 1.7 lb. a day on 2.9 lb. of feed per pound of gain. They averaged 117 lb. at the end of this period.

"During the finishing phase, the pigs averaged 1.95 lb. daily gain on 3.6 lb. of feed per pound of gain.

"Over the three feeding periods, 20 to 146 days of the pigs' lives, the pigs grew at an average rate of 1.5 lb. per day on 3 lb. of feed per pound of gain."

Dr. Hays said that the three rations differed mainly in the protein level and amount of vitamin and antibiotic fortification.

It's important that the ration is formulated for a given stage in the pig's life cycle, he noted.

Centennial Mills Closes Wenatchee Plant

WENATCHEE, WASH. — Halting operations of the Centennial Mills plant here, effective April 30, has been announced by company officials.

Economic considerations, including location and transportation rates, forced the plant to close after 55 years of operation. Dugald A. MacGregor, Centennial president, said the closure is "with deep regret."

Both the grain storage and mill buildings are for sale.

The mill was originally built in 1906 by the Beal Grain & Milling Co., and in 1910 was acquired by the Seattle Grain Co., a division of Centennial Mills, Inc.

Along with the mill, the Centennial installation includes 400,000 bu. of wheat storage.

The Wenatchee facility has been milling bread flour and animal feeds. Centennial has other mills in Portland and Spokane.

Warehouse Opened

KOSCIUSKO, MISS. — Riverside Industries, a wholly owned Mississippi corporation with plants at Pontotoc, Tupelo and Starkville, has opened a warehouse here.

The firm manufactures feeds, fertilizers, insecticides and other farm products and operates cotton seed and soybean processing plants.

Allen Simmons, Kosciusko, has been named manager for the warehouse.

Riverside officials said this is the first move into this area on a large scale and that it will probably result in the eventual location of a manufacturing plant in Kosciusko.

Broiler Set Drops 3%; 16 of 22 States Down

SALISBURY, MD. — Cutbacks in the nation's broiler egg set last week were reported by hatcherymen in 16 of the 22 reporting states. The egg set in the 22 states was 58,258,000, 3% below the previous week, but 7% above the corresponding week a year ago.

States reporting sizable decreases included Maryland, Georgia, Virginia, North Carolina, Indiana and Texas.

In Delmarva, the broiler egg set of 5,370,000 was the lowest this year. Settings were 12% below the previous week and 7% below the comparable week last year.

Placements in the 22 states totaled 45,605,000 chicks—slightly above the previous week, and 24% above the corresponding week a year ago. Increases were reported for 12 states compared to the previous week. States showing appreciable increases include Arkansas, Washington, Texas and Indiana.

Prices in Delmarva fell again last week. The average price paid on the farm was 14.35¢. A week earlier it was 14.59¢ and a year ago, 16.68¢.

April was not such a favorable month for Delmarva broilermen. The average price for the month was 15¢ compared to 17.5¢ a year ago. Feed prices rose 1¢, averaging $4.73 cwt. Broiler chick prices did become more favorable, however—$11.50 per 100 compared to $12 the year before.

NORTH DAKOTA FIRM

MINOT, N.D. — Dakota Grain & Storage, Inc., has filed articles of incorporation listing $1 million authorized capitalization and incorporators: Victor Reese of Parshall; Obert Ashiem of Mohall, and Alfred Johnson of Plaza.

FARM BILL

(Continued from page 1)

scheduled a two-day session on hearings of a new sugar act for May 18-19. This means that the House will not complete its action on the omnibus bill—which, incidentally, is described privately by old timers at the U.S. Department of Agriculture as the "ominous" bill—until after the USDA deadline to announce price support levels and acreage allotments for the 1962 wheat crop.

Poultrymen Object

As was not unexpected, the poultry industry, although in a bad slump financially, made vigorous protests against the implications of undescribed goals of marketing orders and agreements for poultry and eggs. This protest represented almost unanimously nation-wide objections, except for regional approval from the southern New Jersey and some California egg producers.

This supply-management theory is described as straight from the collegiate cloisters and sadly misses the realities on the market place and a free economy. It clearly means controls at every stop, and while these sincere individuals believe they can correct the inequities of the farm problems, they do not sense what old timers from the Henry Wallace days long since learned—that once controls are applied at one point, eventually they must be extended to remote points.

Marketing orders and agreements have had exceptionally good influence in special situations, but observers here believe that when used for livestock and poultry and eggs, they would only produce chaos or a hideous black market which could make the prohibition era look like a simple parking violation.

While Congress listened to protests from a broad segment of the poultry industry, the turkey federation representatives were still on the sidelines undecided whether to press for their separate bill or join forces with the poultry producers. They appear to want to be on the side of the winners, and they suspect that the broad coverage on poultry industry protests — all the way from Maine through the Southeast and westward to Arkansas—may make it impractical for the turkey growers to put their eggs in the "ominous" bill basket.

P. O. Wilson, national livestock industry leader, was equally vehement in his opposition to the Cochrane-Freeman bill and set forth the free enterprise attitude of the livestock industry.

It is interesting to note that the poultry industry fought the administration bill despite the sad financial condition of the broiler market at this time.

Turkey Outlook Dark

Equally dark is the turkey market outlook, where that industry is on another binge. Few if any government officials trained in those industries believe that any marketing order and agreement control can correct the existing conditions. It seems to them that nothing less than financial attrition can do the job.

An off-the-cuff opinion from this reporter is that the administration "ominous" farm measure will be so badly chopped up in congressional committees that there will be no effective measure reported this year.

A number of poultry industry groupings were represented here this week before the House Agriculture Committee in opposition to the administration's bill and its broad grant of authority.

As it stands now, the bill would provide machinery for drafting and enacting for each farm commodity a program of government production and marketing controls to bolster producer prices. Before going into effect, the programs would have to be approved by Congress and ratified by producers of the commodity in a national referendum.

The South now accounts for a high percentage of the nation's chicken meat and its production is still expanding.

Demands Exemption

The demand for exemption of poultry, eggs and turkeys was voiced by Harold Ford, executive secretary of the Southeastern Poultry & Egg Assn., and a delegation from Arkansas Poultry Federation.

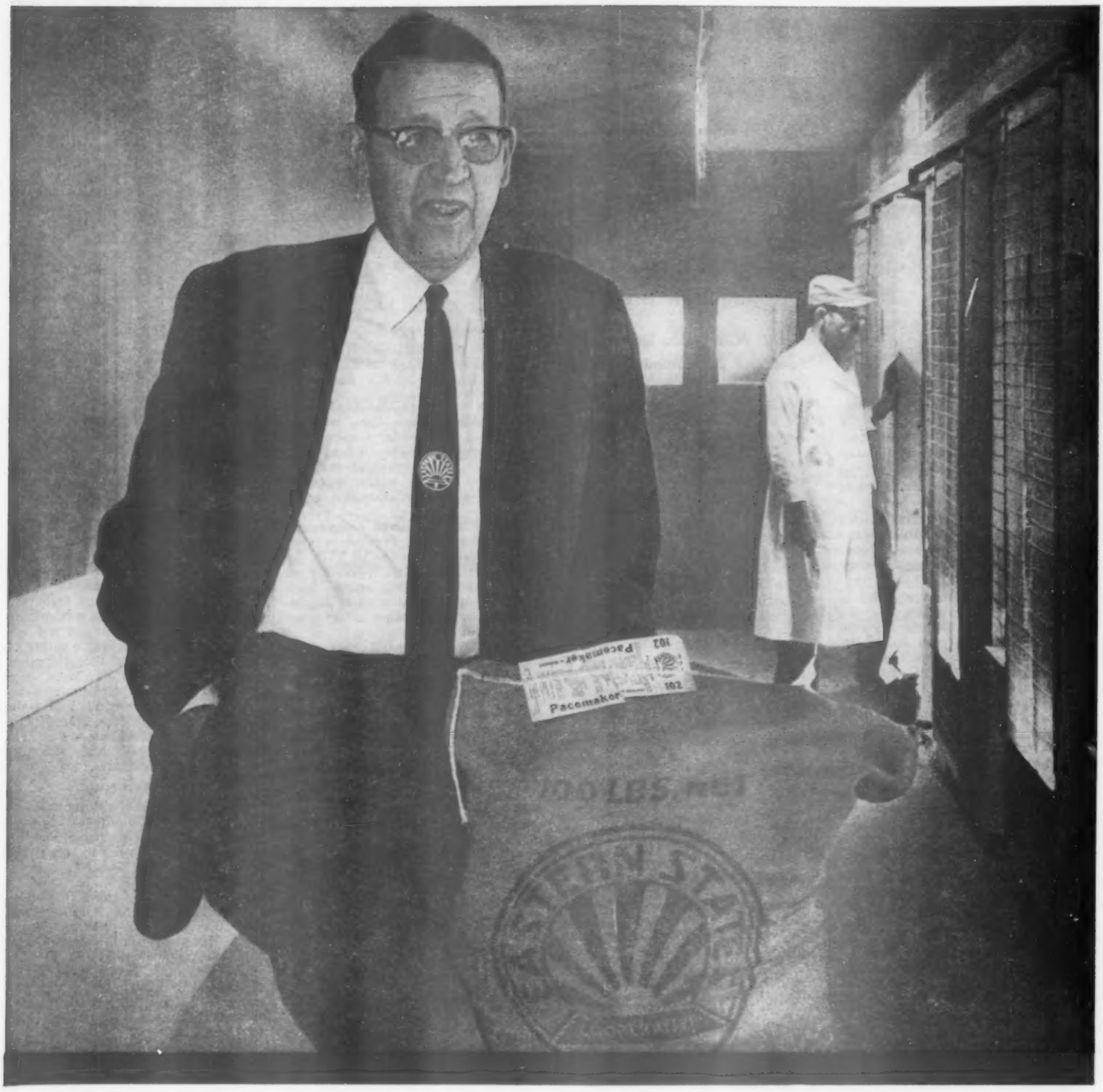
Mr. Ford said he spoke for producers in Alabama, Mississippi, Florida, Kentucky, Tennessee, Georgia, South Carolina, North Carolina, West Virginia and Virginia. Spokesmen said the Arkansas Poultry Federation also opposed any control programs for poultry.

Spokesmen for two groups of cattle producers and two eastern poultry organizations meanwhile attacked the administration bill in testimony before the House Agriculture Committee.

Officials of the American National Cattlemen's Assn. and the National Livestock Feeders Assn. asked the House committee to exempt livestock from the provisions of the bill. The cattlemen's group said, "Restricted production and artificial price is not good for the consumers . . . and what is not good for our customers is also not good for us."

Don F. Magdanz, Omaha, spokesman for the Livestock Feeders Assn., warned that government controls might lead to meat shortages.

Carroll Dunham, Southbury, Conn., president of the Northeastern Poultry Producers Council, called for defeat of the administration bill in testimony also presented on behalf of Delmarva Poultry Industries, a group representing producers on the Delaware - Maryland - Virginia peninsula. Mr. Dunham said powers in the bill would reduce or end the freedom of poultrymen "to freely bargain in the market place."



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Current Developments in FDA Regulation of Drugs in Feeds

- Control Provisions in Brief
- Improper Amounts of Drugs in Feeds
- Anti-Cancer Clause Amendment
- Use of Zero Tolerances
- Regulations on Concentrates Containing New Drugs

By Winton B. Rankin
Food and Drug Administration

Numerous chemicals used in animal husbandry are drugs. They are subject to the controls that the federal law applies to drugs. They must be used properly to safeguard the health of the farm animals. Of even greater significance, they must be used properly to safeguard man's health. Many of these drugs leave excessive residues in man's food; that is, in meat, milk or eggs, if they are used improperly.

Before a pharmacist may fill a prescription for one of these drugs for man, he must complete a course of academic studies, pass an examination designed to test his ability to fill prescriptions and secure a license from appropriate government authority. Most states also require him to serve a period of internship or apprenticeship during which time he is under the close supervision of an experienced pharmacist. Yet the feed manufacturer may add the same potent ingredients to animal feeds without academic training, without serving an apprenticeship and without a test of his ability to perform pharmaceutical manufacturing operations.

Improper Amount

Some mixers are producing feeds that do not contain the proper amount of drugs. Recently, for example, we have had to start legal actions because of feeds containing excessive amounts of arsanilic acid and sulfaquinoxaline and feeds deficient in furazolidone and 3-nitro-4-hydroxy-phenylarsonic acid.

And the farmer may use medicated feeds without academic training, or testing of his ability to use them properly.

Yet the improper mixing or use of many of the medicated feeds on the market today can result in the addition of such drugs as arsenic and stilbestrol to man's food supply. And improper use of veterinary drugs, such as penicillin infusion for mastitis, can cause the addition of penicillin to our food supply.

These additions have occurred. As you know, one of the safeguards relied upon to insure the absence of harmful drug residues in food obtained from treated animals is to allow an appropriate period of time between the date of treatment and the date the food is obtained from the animal. So we have requirements that stilbestrol-containing feed must be withdrawn from beef animals 48 hours before they are slaughtered and arsenic-containing feeds must be withdrawn from poultry and swine 5 days before they are slaughtered. Milk from cows treated with penicillin infusion must not be sold for human consumption for 72 hours after treatment.

We have found milk from cows treated with penicillin infusion going to market too early. We have found some cattle on stilbestrol-containing feed being slaughtered less than 48 hours after the feed was withdrawn. We have found some poultry on arsenical-containing feeds being slaughtered less than five days after they were treated.

There has been a tremendous amount of educational work by many groups to get the message across to farmers, slaughterhouses, milk producers, and others that withdrawal times for medicated feeds and veterinary preparations must be observed. The U.S. Department of Agriculture, many of the states, and many of the members of the Animal Health Institute have joined in this educational approach. We have not found penicillin residues in fluid market milk in recent months.

Certainly, if we are to continue using drugs in our farm animals, if we are to continue to capitalize on the findings of modern science, our society is going to have to have an adequate control mechanism that will keep the food supply free of hazardous quantities of drugs and other chemicals.

FDA Controls

Some persons may be confused about the way these sections of the Federal law apply to your industry. Perhaps it will be worthwhile to look at the total control exercised by the Food and Drug Administration over the drugs used in animal husbandry.

Today, when you want to market a new drug for the treatment of animals, you have to get the government to sanction its use. At least you have to get government sanction if the drug or the feed containing it is to cross state lines. The bulk of these products are controlled by the Federal Food, Drug and Cosmetic Act administered by FDA. (I will not attempt to cover in this paper the animal biologicals which are regulated by the Department of Agriculture.)

What are the requirements of the Food, Drug, and Cosmetic Act?

—The new drug section of the law was enacted in 1938. It requires a new drug to be tested and proved safe under the proposed directions for use to the satisfaction of the FDA, before it may be marketed.

—The antibiotics amendments were enacted from 1945 to 1949. They require each of the five certifiable antibiotics to be shown safe and effective to FDA before it may be employed in or on animals.

—The pesticide chemicals amendment was enacted in 1954. It provides among other things that when a pesticide is used on farm animals so that it leaves a residue in food from them, the residue must be properly tested and a safe tolerance established by FDA for allowable quantities.

—The Food Additives Amendment was enacted in 1958. It requires proof of safety, and clearance by FDA for any food additive that leaves a residue in food, including animal feed. Also the food additive must accomplish its intended physical or other technical effect.

—And if you should happen to want to add a color additive to feed, it would have to go through the safety clearance procedures of the Color Additives Amendment enacted in 1960.

We think these Federal requirements are reasonable. They make it necessary for a manufacturer to show that his new veterinary drug is safe before he puts it on the market. This is a precaution that our society has adopted to guard against the hazards flowing from the tremendous advances of modern technology. The new knowledge contributed by science in the past generation is so vast that we cannot take the risk of applying it without sound consideration of the possible evils as well as the possible good. The present law requires the person who wants to capitalize on the benefits of new knowledge in your field to make sure, in advance, that the result will not jeopardize public health. Certainly this is sound.

Premixing

In large measure the chemicals that are used to medicate feeds are added by the feed manufacturer as concentrates or premixes.

When the pharmacist mixes a very small amount of a potent powder with a large amount of another powder, he exercises certain precautions to be sure that the finished product is safe. For example, to mix one-hundredth of an ounce of active ingredient properly in a pound of finished powder, he may first mix the active material with an equal quantity of diluent. He can do this thoroughly in a short time. He could combine the resultant mix, consisting of 2/100 ounce, with approximately an equal amount of diluent, making about 4/100 ounce of mix. By continuing this process of gradual dilution, he avoids the formation of pockets containing very high concentrations of active ingredient which would be almost certain to occur if he started by adding the 1/100 ounce of drug to the full pound of diluent.

He doesn't use the same language you do in describing the process, but in this illustration the pharmacist has prepared a pre-mix or concentrate with the active ingredient thoroughly dispersed in enough diluent to make it much easier to conduct the final mixing operation.

Of course the feed mixer may have additional problems not generally present in the retail drug store—the problem of getting a very fine powder to remain evenly dispersed when it is incorporated in a feed made up of relatively coarse particles, for example. Such problems also require safeguards in manufacturing and control.

New-Drug Concentrates

The purpose of the new drug section of the law is to see that a new drug gets in the hands of the ultimate user in such form and with such labeling that he can employ it safely. If a feed concentrate requires special manufacturing and laboratory control when used in the feed mill to insure the production of a commercial feed that is safe, a new drug application is required covering the use of the concentrate by the specific mill. Most of the new-drug concentrates on the market today are in this group.

But if the feed concentrate can be produced so that there is reasonable assurance that it can be used safely by feed mixers according to label directions without the need of special manufacturing or laboratory controls to insure safety, then no new drug application is required from feed mills. Of course an application would be required from the firm manufacturing the concentrate.

This is a well-established policy. Several years ago we allowed an application to become effective for production of a Vitamin D concentrate for use in feed. Supplemental applications were not required from the feed mixers that use this concentrate because special controls did not appear to be needed to insure safety of the finished feed. And recently other manufacturers have developed concentrates and label directions to insure safe use by feed mills with ordinary mixing procedures. Here again, supplemental applications are not required from the individual feed mills using these concentrates.

Delaney Clause

Some wonder whether the anticancer clause of the Food Additives Amendment is a reasonable requirement. There is no need to repeat the arguments on both sides of this question.

As you know, we believe that there is no valid basis for considering a change in the basic principle of the anticancer clause until science makes a breakthrough in this area.

On the other hand, there is no public health reason for having the anticancer clause apply to a product for use in animal feed where use of the chemical:

(1) Does not harm treated animals, and

(2) Leaves no residue in man's food derived from the treated animals.

If the law were amended to make the clause inapplicable under such conditions, this would take care of some of the questions that you have raised. We are still considering, with our department, whether to submit a bill to Congress that would amend the law in this way. Of course, the industry doesn't have to wait. It can draft its own bill if it wishes.

Zero Tolerance

Some have questioned the reasonableness of a principle of law that requires zero residues or no residues of an additive that has no finite tolerance. They wonder whether this principle requires an unscientific operation—proof of a negative. The only thing the law requires in this regard is that you determine whether there is a residue when food is properly tested by an analytical method of adequate sensitivity. If you apply such a test properly and find no residues you have no problem.

We will be glad to consult with you on the sensitivity needed in a method for any specific chemical. If you don't know and we don't know anything about the toxicity of the chemical, we can't be of much help. Under such circumstances you should not use the material until you get some facts about its toxicity. But when you let

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EDITOR'S NOTE: *A Food and Drug Administration official recently presented FDA views and explanatory information on developments and problems in the use of drugs in feeds. This latest statement on matters of interest to the feed industry was made by Winton B. Rankin, assistant commissioner of FDA, at the annual meeting of the Animal Health Institute in Washington. While the talk was addressed to drug and chemical manufacturers, it contains a good deal of comment and information of interest to feed manufacturers as well. The accompanying article is a partial text of Mr. Rankin's presentation.*

us have sufficient data to show the toxicity of a chemical, we can and will let you know how sensitive the analytical procedure should be to determine whether it leaves residues.

Simultaneous Reviews

Where an additive is both a new drug and a food additive, reviews of the new drug and food additive questions are undertaken simultaneously after the application has been filed with FDA. In most cases the same reviews and evaluation of chemical and pharmacological data serve equally well for final consideration of both the new drug application and the food additive petition. As you know, our regulations have been drafted to relieve you of the necessity of filing separate petitions under these two sections of the law. A single petition or application suffices. Similarly, simultaneous consideration is given to antibiotic or pesticide questions involving a veterinary drug.

We have invited the affected industries to let us know of any specific cases where they feel we have not followed this policy. One firm called our attention to two instances where it believed consideration of the food additive portion of a petition could have been started earlier. We find that our announced policy was not followed in dealing with these petitions, and we have taken steps to guard against a recurrence of the error.

If any of you have any situation in mind that you believe represents a deviation from the principle of considering both food additive and new drug questions simultaneously, we invite you to call it to our attention.

2 West Coast Firms Have Plan for Joint Egg Breaking Setup

LOS ANGELES—Plans for establishing a joint egg breaking operation in northern California have been completed by two leading egg processing and marketing firms of the West Coast, it has been indicated here by company announcements. The two firms involved are Olson Brothers Egg Products Co., North Hollywood, and Nulaid Farmers Assn., San Leandro.

Dean Olson, a spokesman for Olson Brothers, said the northern California operation will be patterned after that of the firm's operations in southern California areas. Through this joint venture, he said, Olson and Nulaid expect to develop "aggressively" the production and merchandising of frozen eggs in the northern part of the state.

Norman F. McIntyre, Nulaid's general manager, added that the egg breaking operation was undertaken through the purchase of the assets of the Pacific Egg Products Co. Also, he said that for the time being, at least, breaking operations will be conducted in the existing plants acquired from Pacific.

To Re-enter Processing

Regarding another significant development, Mr. McIntyre confirmed that Nulaid intends to re-enter the field of poultry processing. He said a site has been selected for construction of a plant, but added that the date on which actual operations might get under way would be dependent to a great extent on how rapidly construction and fitting of the plant can be carried out.

Mr. McIntyre also reported that William E. Tallent, formerly with Victor Ryckebosch, Lancaster, Cal., and the Albers Milling Co., will be in charge of the organization's poultry processing and marketing operations.

Security Mills Elects J. B. Kelley Treasurer

KNOXVILLE, TENN. — The election of J. B. Kelley as treasurer of Security Mills, Inc., of Knoxville, has been announced by James E. Skidmore, president.

Mr. Kelley succeeds James G. Johnston, who has been vice president and treasurer of the company for many years. Mr. Johnston continues as vice president.

Mr. Kelley will continue as comptroller of the company and, in addition, will assume responsibility for administration of the company's credit department.

OHIO ELEVATOR MANAGER

URBANA, OHIO—The Nau Grain Co. of Urbana has announced the appointment of Paul Tawney as manager of its grain elevator at Lippincott. Before coming to the Nau Grain Co., Mr. Tawney was manager of the Millersburg Equity Exchange Co. at Millersburg, Ohio. Miss Esther Mowrey of Urbana, Ohio, has been named assistant manager and will, in addition to her previous duties, be in charge of the buying and selling of all grains.

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PAMCO BIG DADDY. Proven close tolerance of tubes and 9" floor auger, 12" upright auger and 9" boom auger. Exclusive front unloading AND loading. Smooth dual hydraulic system. Pellets handled with minimum breakage. Molasses feeds delivered with customer satisfaction.

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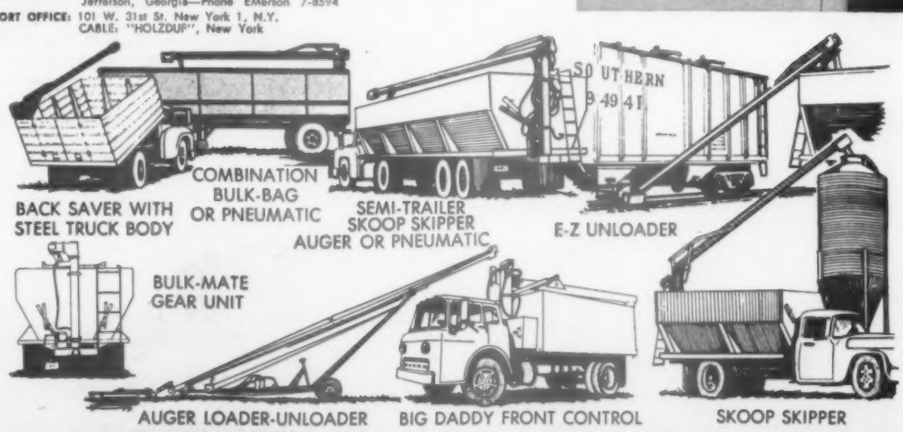

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"After years of superior performance in the field,

Unistat® remains the coccidiostat of choice for us,"

says C. T. Ramzy, President, R & R Milling Company, Inc., Carthage, Mississippi

Nobody knows better what a feed additive is worth than the man who runs the business. After all, it's his money that's on the line. So, it's important what Mr. Ramzy says about Unistat. His company now produces approximately 3,000,000 broilers a year. In addition to raising the birds, R & R Milling Company has a highly integrated operation consisting of hatchery, breeding flocks, feed mill, and dressing plant. This kind of an operation gives Mr. Ramzy a close-up look at all factors bearing on profit—**feed conversion, condemnation, flesh quality,** and **growth rate.** Unistat has proven superior on all these points for R & R Milling Company. It can perform equally for your feeds, too!

C. T. Ramzy, President, R & R Milling Company, Inc.
Carthage, Mississippi

UNISTAT®

gives your feeds new profit benefits, also prevents coccidiosis best

Growers everywhere are looking for broiler feeds that do two things: (1) protect against coccidiosis, and (2) stimulate fast, efficient gains. Both of these are reasons why your feed should contain Dr. Salsbury's Unistat. Unistat *prevents coccidiosis best*, under practical field conditions. Unistat is more effective as a coccidiostat because of its unique combination of drugs. It also owes part of its unequalled popularity to these other profit-making benefits—benefits no single drug can provide.

- **FASTER GROWTH.** Extensive tests involving thousands of broiler birds show Unistat chicks were *9.7% heavier* at end of 10 weeks.
- **NEED LESS FEED.** Laboratory tests show that Unistat-fed broilers needed *7.3% less feed* per pound of gain.
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Feed for Thought

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Wiley Akins, our vice president and general manager, has stated, "Our export business has reached the stage where we are now exploring the possibility of establishing manufacturing facilities in Europe." Peter Hand Foundation products are now being sold in 14 foreign markets and Mr. Akins will make another extensive trip in June for conferences with the firm's European representatives and distributors.

Plans are also being made for further plant expansion in the domestic market and substantial improvements will be made at the Foundation's 500 acre Research Farm at Montello, Wisconsin. These include enlarging the beef research facilities, construction of a new lamb research unit and a new turkey unit.

Our staff of nine feed specialists is always ready to help feed manufacturers or nutritionists on all feed problems. Write today for information on Peter Hand vitamin premixes and valuable services for feed manufacturers.

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We invite all of our friends attending the American Feed Manufacturers Convention in Chicago May 7 to 10 to visit the Peter Hand suite, 1900, at the Conrad Hilton Hotel and Booth No. 102 at the National Feed Industry Show.

J. R. LINSNER
Director of Technical Services
PETER HAND FOUNDATION

★ ★ ★

Look for "Feed for Thought" every month. This popular column appears regularly in this same place (page 14) in the first Feedstuffs issue of each month.

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Dehy for Feed Use To Get Treatment With Antioxidant

KANSAS CITY — The American Dehydrators Assn. said this week that practically all dehydrated alfalfa sold to feed manufacturers will be treated with Santoquin Emulsion (ethoxyquin), an antioxidant which preserves the levels of carotene, vitamins E and K and xanthophyll pigmentation factor.

Decision to take this action was made at a meeting in Kansas City April 26 by a group of major producers, which the association said represented more than half the annual production.

"We know that many more dehydrating firms are already preparing to take this same step as the season opens and it would be our guess that from 70% to 90% of all dehydrated alfalfa will go to market this year with this added protection," Joseph Chrisman, executive vice president of the dehydrators' association, said.

"This is a great event for the alfalfa dehydrating industry," Mr. Chrisman said. "It is the culmination of long years of effort on the part of many people to improve our product and protect it to the greatest extent possible. We recall the tedious job of screening hundreds of potential antioxidants in the USDA Western Regional Research Laboratory. Then came the long drawn out process of getting clearance from the Food and Drug Administration and the years of cooperative effort between the USDA folks, Monsanto Chemical Co., the producer of the product, and the American Dehydrators Assn. In this long road there were many obstacles but now the last of them has been removed."

Water Miscible Form

He said the decision to add ethoxyquin was made possible by the fact that the producer, Monsanto Chemical Co., recently developed a water miscible form. Previously only an oil mixture was available and many buyers did not want to purchase an oil treated alfalfa because of formula problems.

Mr. Chrisman commented that cooperative effort on the part of dehydrators was necessary in order that feed manufacturers could be assured of an ample supply of the treated product. Feed manufacturers who use the new dehy will have to show on their labels the addition of the ethoxyquin, he said.

The official chemical name of the antioxidant is 1-2 dihydro, 6 ethoxy, 2-2-4 trimethylquinoline and that is the way it must appear on the label at present, ADA said. Application has been made to Food and Drug Administration to permit shortening of this name to ethoxyquin, and it is expected that this will be approved shortly, the association announcement indicated.

Mr. Chrisman said that a survey of a substantial number of feed manufacturers had shown a general acceptance of the improved product and a willingness to make the necessary label changes because of the benefits received.

It is expected that the dehydrators will treat the alfalfa at each dehydrating plant after grinding and in the mixing chamber of the pellet mill, he said. The pellets will then be put in inert gas storage which gives an added protection to preservation of quality. The antioxidant will continue to act as a protectant after the product is withdrawn from storage, shipped to the feed manufacturer and mixed into the finished feed, the ADA official stated.

No added charge will be made for the ethoxyquin treated product as compared with nontreated dehy, producers have announced.

The new product will be on the market beginning with the 1961 harvest which will get started in the Southwest within a few days.

Mr. Chrisman said the demand has been growing in the feed industry for a higher quality dehydrated alfalfa. "Greater amounts of 125,000 and 150,000 A unit alfalfa will be marketed in the coming year than ever before," he said. "Use of ethoxyquin can help tremendously in meeting this demand."

AVI Directors Declare Dividend

DARDANELLE, ARK.—The board of directors of Arkansas Valley Industries, Inc., has declared a 12½¢ dividend for the fourth quarter of the fiscal year that ended April 1.

Harold Snyder, AVI president, said the dividend would be payable May 25 to stockholders of record May 12.

The fourth-quarter dividend raises to 50¢ a share the amount paid on stock for last fiscal year. AVI's stock, traded over the counter, became available to the public in September, 1960.

Mr. Snyder said unaudited figures showed earnings of slightly more than $500,000 for the fiscal year. Audited figures are expected to be available within two weeks, he said.

AVI is an integrated food producer and processor, specializing in poultry and poultry products.

All five of the company's directors were present for the recent meeting. They are Mr. Snyder; S. D. Mitchell, executive vice president and general manager of AVI; William M. Lemley, secretary-treasurer and controller of the company, and W. Guy Redman and Christian B. Peper of St. Louis, partners in A. G. Edwards & Sons.

June 13-16 Are Dates For NEPPCO's Annual Egg Quality School

STATE COLLEGE, PA. — Egg quality will be in for a lot of attention at Pennsylvania State University June 13-16 when the Northeastern Poultry Producers Council, Inc., holds its 30th annual NEPPCO Egg Quality School.

Talks to be presented at the four-day event will include "This Egg Marketing Business"; "The Wonderful Egg"; "Lab—Take an Egg Apart"; "What is Egg Quality"; "Candling Techniques"; "Lab—Yolk and Albumen (Candling)"; "Conserving Egg Quality," and "Egg Cleaning."

Other topics to be discussed include blood spots, meat spots, inedible eggs; the air cell and shell; breeding, feeding, health and egg quality; environment, management and egg quality; exterior egg quality, and cartoning and candling costs.

Also scheduled for discussion are the following areas: Candling for all characters, controlled quality program, measuring Haugh units, mass candling, egg graders, weight classes, grading dozens of eggs, Poultry and Egg National Board, farm care and handling of eggs, outlook for the northeastern poultry industry, and consumers' demands for eggs.

Certificates will be awarded those who satisfactorily pass the examinations after full attendance at the school. Advanced registration with a $10 deposit is necessary. Meals and lodging will be provided for those who desire them.

Handbook of Feed Milling Under Development

KANSAS CITY — A Handbook of Feed Milling—expected to be an authoritative reference book for the entire feed milling industry — is now taking shape, according to a report from the education committee of the Feed Production School.

Each topic in this textbook will be covered by a specialist in the particular field involved. The material will be edited by members of the education committee.

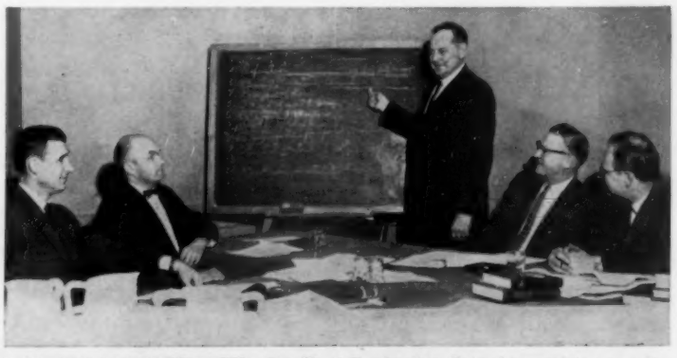
A copy of the book will be given to each registrant at the 1961 Feed Production School, to be held Sept. 11-13 at the Hotel Continental in Kansas City.

In addition to its function as the text for the school, the handbook will be a reference book in the feed milling field. This is the first time that a milling handbook of this type has been prepared.

Among the subjects which will receive detailed attention in the book and during the three-day school are: (1) History of the formula feed industry; (2) standard feed milling terminology; (3) process flow design; (4) plant layout and design; (5) equipment standards; (6) operating standards; (7) record systems for operation control; (8) quality control; (9) bulk and packaged materials handling and storage.

Various tables will be included in the book, such as physical and chemical characteristics of materials, engineering data, conversion factors and mathematical formulas.

Working on the Production School committee which is preparing the book are: Dr. Harry B. Pfost, department of flour and feed milling industries at Kansas State University, chairman; Dr. Robert W. Schoeff, extension specialist, formula feed, Kansas State; Ralph M. Hartmann, Quaker Oats Co., Chicago; Marion J. Kloster, General Mills, Inc., Minneapolis; Robert Stroup, Sprout, Waldron & Co., Inc., Muncy, Pa.; John H. Wessman, secretary-treasurer of the Grain Processing Machinery Mfrs. Assn., Kansas City, and Donald Brooker, department of agricultural engineering, University of Missouri.



HANDBOOK COMMITTEE—The Feed Production School committee on education is pictured as it works on the new "Handbook of Feed Milling," expected to be an authoritative reference for the entire feed milling industry. Left to right—Dr. Robert Schoeff, Kansas State; Don Brooker, University of Missouri; Dr. Harry Pfost, Kansas State University; Ralph Hartmann, Quaker Oats Co., and John Wessman, Grain Processing Machinery Manufacturers Assn. Absent were Robert Stroup, Sprout, Waldron & Co., and Marion Kloster, General Mills, Inc.

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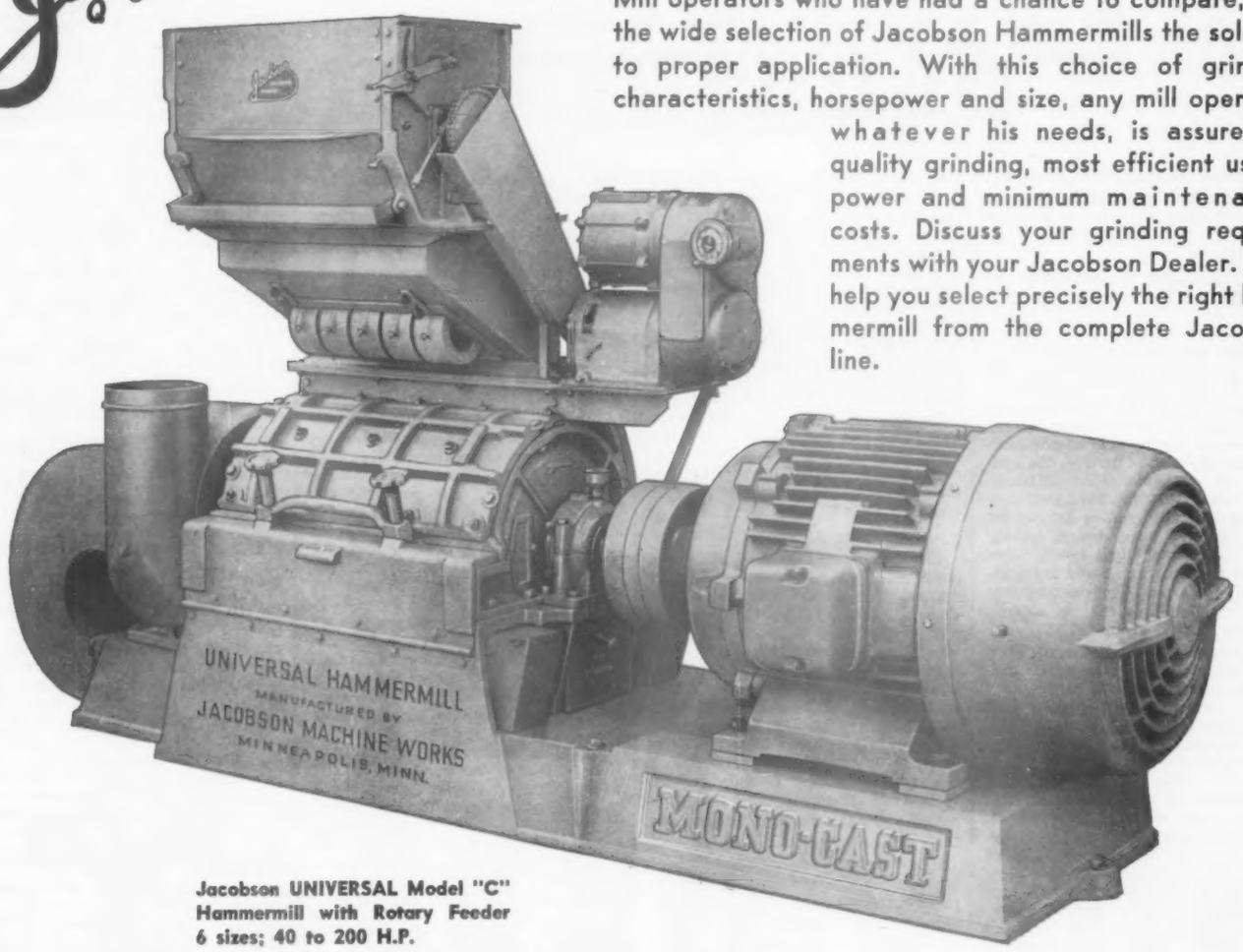

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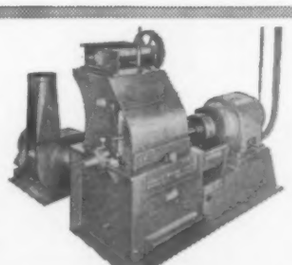

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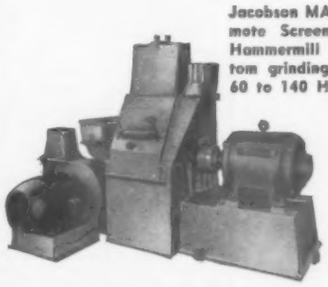

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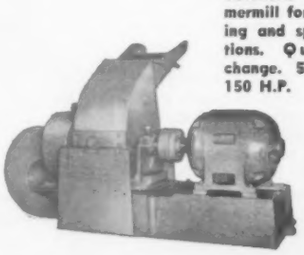

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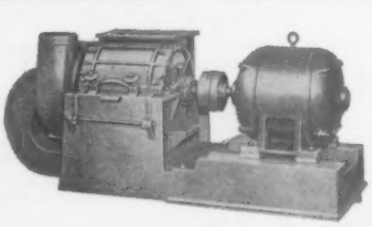

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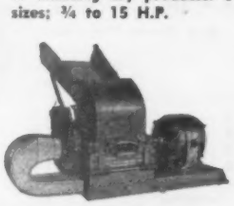

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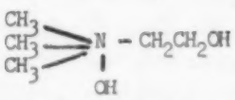
CHOLINE FOR FATTENING CATTLE

"Choline in four of five tests has increased gains of fattening beef cattle. . . . As greater performance is expected of cattle and as roughage composes a smaller percentage of their ration, we shall need to reassess the nutritive requirements of cattle with respect to vitamin synthesis."

By Dr. I. A. Dyer
Washington State University

Choline (hydroxyethyl-trimethyl ammonium hydroxide) is one of the simpler B-vitamins with a formula of:



Choline can be synthesized from methionine in the presence of B_{12} and folic acid. This compound has different functions; it may be combined with homocystine in the formation of the essential amino acid methionine. It supposedly also is used in the synthesis of phospholipids, although Allen et al. (1956) reported that supplementation with choline did not increase plasma, liver, heart, kidney and spleen phospholipid levels. Choline also has lipothropic and antihemorrhagic properties. The primary role of this compound is that of supplying labile methyl groups (CH_3).

Choline has been shown to be a dietary essential for monogastric animals. In poultry, choline is necessary for the prevention of perosis and in the transport and utilization of fatty acids. Johnson (1951) reported that the livability of poults increased from 85 to 91% when a ration containing only proteins of vegetable origin was fortified with choline. Dyer et al. (1949) demonstrated that a corn-soybean meal type ration was deficient in choline for pigs. Rabbits fed diets devoid of choline developed muscular dystrophy, according to Hove and Copeland (1954) and Bowman and Dyer (1960). Since the digestive tract of the young ruminant is physiologically immature, choline, as many of the other B vitamins, is generally considered as a dietary essential. Johnson et al. (1951) reported that calves deprived of colostrum which is relatively high in choline, develop deficiency symptoms within seven days, when their diet is devoid of choline. This deficiency is typified by weakness, labored breathing and loss of appetite. If choline is supplied before the deficiency progresses too far, calves respond to therapy. Choline apparently must be consumed or synthesized as needed as it is not stored in quantity. Leucke and Pearson (1945) did not observe an increased storage when excess levels were fed to sheep.

Davis and co-workers (1956) fed choline chloride to dairy calves at the rate of two grams per head per day. This level had no significant effect on rate of gain but did increase carotene absorption and storage in the liver. These calves received 10 lb. of whole milk per 100 lb. body weight, which apparently supplied a sufficient amount of choline. Waugh et al. (1956) reported the choline content of the blood of newborn calves to be low. It increased slowly for the first three weeks and thereafter remained relatively constant in milk fed calves. However, the blood choline level was not maintained when milk was removed from the calves' diet. Administration of choline was ineffective in restoring higher blood choline values in these calves.

TABLE 1. Effect of Choline Chloride on Beef Cattle Performance*, †

	No. Cattle	Average daily gain Control	Choline
Trial 1	6	3.11	3.12
Trial 2	6	2.80	2.55
Trial 3	12	2.71	2.92
Trial 4	6	2.23	2.55
Av. (weighted)		2.71	2.81

*The rations were similar in each test and contained approximately the following:

Barley	50%
Beet pulp	19%
Alfalfa (suncured)	20%
Oats	5%
Molasses	5%
Salt	1%

†Choline chloride (25%) was used as 505 mg. per lb. feed. It was fed at approximately the same level in each test.

Cattle Trials

Choline heretofore has not been considered a dietary essential for mature ruminants (Maynard and Loosli, 1956). Choline was used in four preliminary trials at Washington State University with fattening beef cattle. In the first test, choline was fed to test its lipotrophic effect. In this one test, its general effect in combination with fat appeared nil. However, since there was a noticeable increase in growth, especially during the early feeding period, further tests were conducted with this compound. Results of the preliminary tests are presented in Table 1.

Since responses to choline had been particularly evident at the beginning of the feeding period and to a lesser extent throughout the test, a fifth experiment was conducted. This experiment consisted of two groups of uniform yearling steers. The experimental treatment and results are presented in Table 2.

Dr. I. A. Dyer

AUTHOR—Dr. Irwin A. Dyer is an associate professor in the department of animal science at Washington State University, Pullman, devoting half of his time to research and half to teaching. Since 1954 he has worked extensively with feed additives for ruminants. Dr. Dyer received his Ph.D. degree at the University of Illinois in 1950. Before going to Washington State in 1955, he was at the University of Georgia, and for two years he was advisor to the Ministry of Agriculture, El Salvador, C. A., on livestock affairs.

Results from this study indicate conclusively that the fattening steer does not synthesize sufficient choline for optimum performance under all conditions. In this test, 143 cattle served as controls and 69 were fed choline (13 gm. of 25% dry mix per head per day). During the first 27 days, the choline fed steers gained .39 lb. more than the control group. As the test progressed, the response to choline decreased. This is to be expected, since the response to most feed additives is greater at first. The average increase due to choline for 102 days was 0.17 lb. per head per day, with a feed saving of 36 lb. per 100 lb. gain. Assuming the cost of choline to be 15¢ per lb. and live weight price of cattle at 25¢, the choline would have netted $3.88 per steer on gains alone.

Further work is necessary with beef cattle to establish the types of rations which are deficient in choline, the optimum level under the various feeding regimes and the feed additives that are compatible with choline.

Dynafac, singly and in combination with choline, was used in this test. When fed singly, it resulted in gains comparable to those produced by choline; however, these two compounds in combination were not compatible. Gains and feed efficiency were lower in this group than in the control group.

The mode through which choline exerts its beneficial effect in beef cattle has not been determined, although there are several possible pathways.

Summary

In summary, choline in four of five tests has increased gains of fattening beef cattle. The efficiency of feed utilization was increased by approximately 3% when choline was fed. Although the effects of the different levels of choline are not directly comparable, it appears that the 3.25 gm. choline chloride was more effective than the 2.50 gm. fed in the preliminary tests. As greater performance is expected of cattle and as roughage composes a smaller percentage of their ration, we shall need to reassess the nutritive requirements of cattle with respect to vitamin synthesis.

TABLE 2. Effects of Choline on Performance of Feedlot Cattle (102 days)*

	Control†	Choline‡
No. steers	143	69
Average initial wt., lb.	867	879
Average final wt., lb.	1109	1137
Average daily gain, lb.	2.34	2.51
Average daily feed, lb.	30.70	32.08
Average feed per 100 lb. gain, lb.**	1309	1273
Average digestibility of dry matter, % (nylon bag technique)	58.7	58.1

*A cooperative test between the Department of Animal Science, Washington State University, and the Seattle Packing Co. through the courtesy of Guy Boyd. Appreciation is also expressed to the Commercial Solvents Corp. for providing financial aid and the choline.

†The concentrate rations were composed of the following approximate percentages. Corn silage was fed with this ration.

Barley	30.0
Screenings	27.5
Milo	15.0
Molasses	10.0
Beet pulp	5.0
Commercial concentrate	5.0
Hay	5.0
Salt and millrun	2.5

‡Fed at the rate of 13 gm. of choline chloride (25%) per head per day.
**Including silage.

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Peter Hand Planning Fortification Clinic

CHICAGO — More than 40 executives, European representatives, research and production specialists, district managers and distributors of the Peter Hand Foundation have been invited by Wiley Akins, vice president and general manager, to participate in the company's annual Feed Fortification Clinic May 11-12.

Sessions will be held in the foundation's Chicago headquarters.

Leading the discussion and demonstration groups will be research vice presidents Dr. R. A. Rasmussen, animal division, and Dr. Myron W. Pasvogel, poultry division; John Linsner, director, and Jerry Anderson and Richard Kelley, technical services; Richard Kerley, coordinator of sales, production and procurement, and Dr. Heino Naelapaa, coordinator of specifications and production. Harry N. White, sales manager, will be the moderator, according to Mr. Akins.

"Our technical staff, laboratories and research farm," Mr. Akins stated, "are continually adding to our knowledge of ways and means to produce meat, milk and eggs more economically. Our feed fortification clinic provides our men in the field an opportunity to learn first hand of latest developments in feed fortifiers which they, in turn, can use to assist our customers to obtain optimum and most economical production."

Consolidated Blenders Opens Plant in Tampa

OMAHA — Consolidated Blenders, Inc., distributor of dehydrated alfalfa products, has opened a new distribution plant at Tampa, Fla., it was announced this week by Consolidated officials.

Lowell Price, who has had 24 years of experience in the alfalfa dehydrating industry, has been named manager of the Tampa plant.

At present, Consolidated is shipping its products by truck, rail, inert gas equipped barges and cargo ships to all parts of the U.S. and to nine foreign countries, the firm noted. Consolidated has shipped a large volume of dehydrated alfalfa pellets to the Florida area by truck from its Guntersville, Ala., plant. The new distribution warehouse in Tampa will be supplied from Nebraska by barge.

"The future of Consolidated's products in Florida holds great promise for us," said Bob Wisemiller, general sales manager for Consolidated.

New breakthrough in swine gains and profits

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Brand of oleandomycin and oxytetracycline TM

...new antibiotic feed fortifier that has shown it can produce:

- **more gain than *any other antibiotic* or drug used alone.**
- **more gain than *any other combination of antibiotics.***

Turn page to see how the test records compare

The field trials reported on the following pages compared Taomyxin with other antibiotics or other drugs commonly used alone, or in combinations of two or more drugs.

For these trials, a regular, high-quality swine feed was used. Taomyxin was added to part of the feed . . . other antibiotics or drugs to the rest . . . and the performance of the different rations was compared.

The Feed Industry's $ $ $ $ $ $ $ $ $ $ $ $ $ *Increasing Capital Requirements*

By Oakley M. Ray
American Feed Manufacturers Assn.

Capital requirements will increase substantially for many feed manufacturers. This is due to an increase in volume, substitution of capital for labor, more vertical integration, increasing credit demands from farmers, etc.

Manufacturers will find it necessary to spend more time "recruiting" and investing capital. It will generally be profitable to assign top priorities to investments in whatever plant, equipment and personnel are needed for an A-1 operation. The art of recruiting capital has been neglected by many manufacturers. Improved records and forward planning can be helpful to both farmers and feed manufacturers in their search for capital. Many feed companies are woefully weak in their "public relating" with banks and other sources of credit.

FACTORS INCREASING CAPITAL REQUIREMENTS—1. Growing Feed Industry—The feed manufacturing industry is growing rapidly. Tonnage increased from 29 million tons in 1950 to 39.5 million in 1960, an increase of more than one third.

The industry will continue to expand. U.S. population is expected to increase about 20% in the next decade. Per capita consumption of animal products is generally increasing. Manufactured feed is increasing as a percentage of all feed used. Manufactured feed consumption per animal unit has increased more than 40% since 1948.

Industry capital requirements will increase as the industry grows. The Census of Manufactures indicated that the 2,000 reporting feed manufacturers spent more than $50 million in new capital expenditures in 1958. This was only a portion of the total increase in feed industry capital requirements. Companies which maintain or increase their share of the industry output will have to increase capital investment accordingly.

2. Substitution of Capital for Labor—There will be continuing substitution of capital for labor as the cost of labor increases per hour or per month. The 1958 census indicated that new capital expenditures by feed manufacturers were 49% above those reported in 1954. The number of employees was below the 1954 level. American Feed Manufacturers Assn. records indicate that industry tonnage increased 14% between 1954 and 1958, despite the decrease in employment. There will be increasing automation, new push-button mills requiring less than one man-hour per ton, etc. Most of the new mills will require an investment of at least several hundred thousand dollars each.

The AFMA tonnage report indicated that 38% of manufactured feed tonnage was handled in bulk in 1960. This varied from a high of 60% in the Pacific states to a low of 20 to 25% in the Corn Belt.

The trend to bulk handling of feeds will continue, requiring substantial investment in equipment and facilities. There will be more bulk delivery direct from feed mills to nearby farms. Much of this feed will be unloaded directly into feeders or into bulk bins serviced by mechanical equipment. Thus, much of the feed will not be rehandled on the farm. Some farmers are requesting financial assistance from the feed industry for the installation of bulk bins and handling equipment.

3. More Vertical Integration—Vertical integration will increase (defined as combining under one management two or more parts of the supply, production, processing and marketing operations). Integration will develop fastest in turkeys and eggs but will also increase in livestock. Two of the main reasons that farmers are interested in integrating is to shift (1) much of their capital requirements and (2) much of their risk to the integrator. The integrator will sometimes be a feed manufacturer or dealer. The farmer is generally guaranteed a minimum return. The integrator often furnishes everything except labor, buildings and equipment.

4. Increasing Investment per Farm—Independent farmers are requiring increasing amounts of capital to finance an economic-sized production unit. Purdue farm management records for more than 500 Indiana farmers indicated an average capital investment of $100,000 in 1959 as indicated below:

Year	Investment per Farm
1935-39	$ 20,000
1945-49	42,000
1955-58	87,000
1959	100,000

The average investment per farm in 1959 was five times the pre-World War II investment and more than twice the 1945-49 average. The 500 farms included in the Purdue records are not average farms as defined by the census, but probably are representative of commercial farms in the Midwest.

There is no indication of a reversal of the trend toward increased capital requirements. Agricultural Economist Raymond R. Beneke of Iowa State University recently predicted that a $200,000 capital investment probably will be required for the average Iowa farmer by 1975.

Oakley M. Ray

AUTHOR—Mr. Ray has been director of market research for AFMA since March, 1958. He is responsible for coordinating AFMA's economic activities—including Poultry Survey Committee, Feed Survey Committee, Market Research Committee and feed tonnage report—and research concerning matters such as integration and contract agriculture.

He is the holder of B.S. and M.S. degrees in agricultural economics from Purdue University, where he was a researcher, teacher and extension publication editor. For 1½ years Mr. Ray was assistant director of the American Meat Institute's department of marketing.

The tremendous capital investment required for an efficient-sized farm poses a serious financing problem for farmers and farm suppliers. This will become more difficult as farm size continues to increase.

Farmers will try various alternatives in searching for a solution to their capital problems. Some will turn to integration, some will incorporate, some will rent instead of own, some will operate with an increased amount of debt, etc. The feed industry will be asked to supply even more farm capital than in the past.

FEED INDUSTRY TO EXPAND—Almost all feed manufacturers would prefer to sell feed on a cash basis. Feed men are not credit specialists and probably have not been as successful in limiting bad debt losses as credit institutions. Some farmers feel less compulsion to pay promptly a debt to their feed supplier as compared with a debt to the local banker or Production Credit Assn. Feed companies often are reluctant to take legal action to collect. They believe it would be bad public relations. The credit charges of most feed companies are insufficient to cover total costs of extended credit. They often do not include much of the cost of administering loans and the bad debt losses which always occur to some extent.

Feed industry credit to farmers is likely to expand despite the many disadvantages. Independent farmers need more capital as indicated above. The feed industry is the largest seller of farm supplies. The thousands of feed suppliers are so competitive that they will be unable to reverse the trend toward providing an increasing amount of credit to customers.

DON'T OVERLOOK CASH SALES—The general feed industry trend is toward more credit, more end product marketing, more integration, etc. But some farmers are still interested in purchasing feed with a minimum amount of service attached for the lowest possible cash price. Some feed companies will be quite successful in catering to this type of customer. Most companies will have some cash business. Some firms are losing this customer because their price lists do not reflect the actual difference in costs between credit and cash sales. These companies are asking a cash customer to pay for part of the cost of his neighbor's credit. This situation, of course, also applies to many other industries.

INVEST CAPITAL WHERE RETURNS ARE GREATEST—The theory of capital investment is simple. Certain investments are necessary to stay in business. If most customers insist on bulk delivery, for example, it will be necessary to purchase bulk equipment.

Returns to additional investment are maximized by investing first in the activity where returns per dollar invested are largest (assuming that for some investments the returns exceed the cost of the capital). If an unlimited amount of capital is available at a given interest rate, returns are maximized by continuing to invest until you reach the point where returns from additional dollars invested in each alternative are exactly equal to the cost of the capital.

In practice, investment decisions are more difficult. There are interrelations between departments, short-run and long-run variations, fluctuating prices and costs, etc. It is difficult to determine the exact return to each investment. Some companies are unable to secure enough capital to invest to the point where additional investment just returns the cost of the capital. In general, it appears that those who are quite limited on capital should first invest in whatever plant, equipment and personnel are needed for a top-notch feed operation. Companies which can manufacture and distribute feed as efficiently as any competitor, and more efficiently than most, will usually have a satisfactory profit and loss statement. They are likely to have fewer problems with such factors as integration and on-the-farm milling than feed manufacturers who do not do the best possible job performing their primary function—manufacturing and distributing feed.

CONCENTRATE ON CAPITAL PROCUREMENT—Total inputs required by a company or industry can be broadly classified as capital and labor (including management). Most companies have failed to spend adequate time "recruiting" and maintaining their supply of capital. The capital input deserves similar consideration to that generally recognized as essential for recruiting and retaining employees.

1. Help Farmers Obtain Conventional Credit—Feed companies should encourage farmer-customers to make increased use of conventional credit facilities such as banks, PCA's, federal land banks, insurance companies, etc. Many of the rural credit agencies depend heavily upon agricultural credit. They do not want to be replaced by other sources of capital such as feed companies. They usually have capital available to make loans which they believe will be repaid. Feed companies in many cases can help producers to obtain credit from these sources.

2. Improved Records Needed—Farmers are often poor record keepers. This lack of records has been one of the most important barriers standing between producers and credit. Feed companies can perform an important service for customers (and at the same time solve some of the company's capital problems) by helping farmers to develop a good set of records.

No customer should be encouraged to expand his operation substantially or to branch out into a new enterprise without a realistic and detailed budget as to likely income and expenses. It is not surprising that a banker would reject a loan application which did not include such a budget, as well as an accurate balance sheet of assets and liabilities. If the loan does not appear sound to the banker after such records have been prepared and explained to the banker, there is a good chance that it will not be sound for the feed company either.

3. Feed Companies Need More Forward Planning—The need for improved records also applies to some feed companies. In particular, many have failed to do sufficient forward planning of company capital requirements and how they will be obtained. Poor financial management can more than offset the most efficient production management in the industry.

Some companies who have done such forward planning have been almost overwhelmed by the magnitude of future capital requirements. Still—they are likely to be able to handle future requirements at less cost and less difficulty if they are anticipated well in advance.

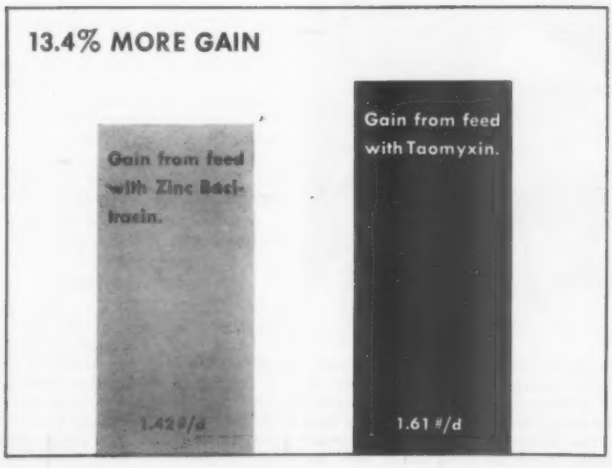
4. More "Public Relating" with Capital Sources—Another area that deserves increased attention by feed manufacturers is public relations programs with bankers, PCA's, etc. Most companies recognize the need for formal or informal public relations ef-

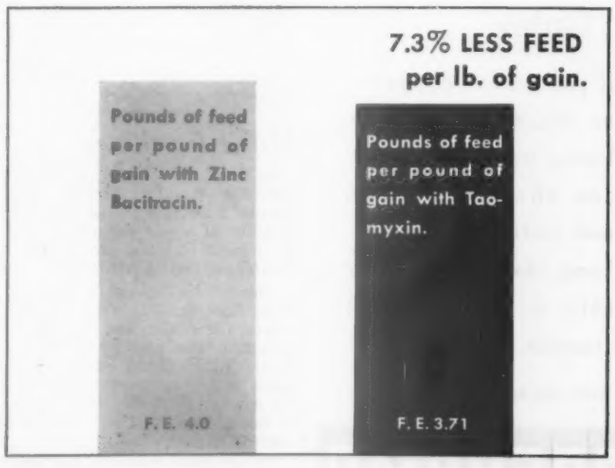
taOmyxin

Pfizer

Brand of oleandomycin and oxytetracycline TM

produces more gains at less cost than Zinc Bacitracin




7.3% LESS FEED per lb. of gain.
Pounds of feed per pound of gain with Zinc Bacitracin.
F.E. 4.0
Pounds of feed per pound of gain with Taomyxin.
F.E. 3.71

Taomyxin produced 19 lbs. more gain per day per 100 pigs . . . on 29 lbs. less feed per 100 lbs. gain.

For additional information on the above trials, write for "Synopsis of University Research and Field Trials on Taomyxin" from Chas. Pfizer & Co., Inc., Agricultural Division, 235 East 42nd St., New York 17, N. Y.

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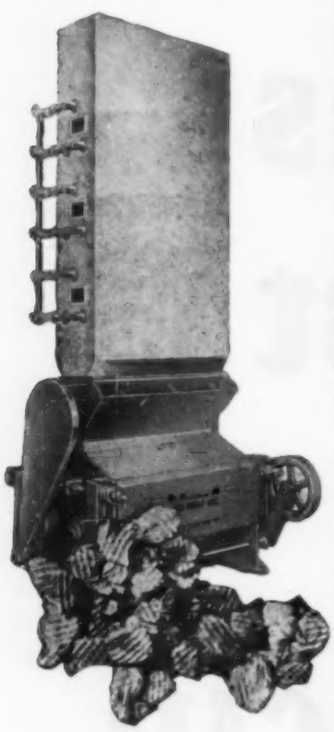

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forts with customers, employees and perhaps other groups such as county agents, vocational agriculture teachers, veterinarians, etc. In many cases suppliers of credit have been almost completely overlooked.

Some of the companies which have been most successful in obtaining capital owe much of their success to a lot of intelligently directed hard work in this area. The banker usually does not have an expert knowledge of the feed, poultry and livestock industry. In most cases he will appreciate being kept informed concerning new developments and new possibilities for sound loans. Companies which are likely to be most successful in obtaining credit are those which develop a close relationship with their bankers over the years—not the companies who see the banker only when they have a program to "sell."

LARGEST COMPANIES MAY NOT HAVE CAPITAL ADVANTAGE—The larger companies generally have access to more dollars of capital on a given date than do smaller companies. This is not the complete story, however.

Companies which sell 500,000 tons per year obviously must have more capital than a competitor selling 10,000 tons—if both companies are to grant the same amount of credit per ton. The same applies to integrated programs which require capital investment by the feed company.

The fact that a company has capital available in 1961 to invest does permit the company to take part in integrated operations which may not be possible for companies with less capital. However, availability of capital provides no assurance that the money invested will eventually be returned with a profit. There have been many examples of vast integrated investments which have lost heavily. The next 12 months will provide additional examples of serious losses to some of the firms integrated in egg, broiler and turkey production.

The most important factor in determining a firm's access to the capital market over the long-run probably is its financial results. A small company which has consistently earned a good return on investment is likely to be more favorably received by a banker than a "giant" which has been in the red most of the time.

Small feed manufacturers have consistently demonstrated an ability to compete with the largest firms in the industry. There are various reasons.

Efficient feed production can be attained with only a moderate sized plant. Also, the feed industry is essentially a service industry. The person who is in the best position to know the needs of his customers and to tailor his operation to those needs is the manufacturer who is located closest to his customers.

Capital requirements for feed manufacturers have been increasing steadily over a period of years, but there is no indication that the efficient local manufacturer is going to "lose his marbles" to his largest competitors.

Make Fertilizer

AZALEA, WASH. — Operating under the name "Azalea Poultry Farms," three residents here have established a new business producing an organic fertilizer and mulch combination called "Ferti-Mulch."

The product is made from a fir bark, finely ground, then mixed with chicken fertilizer and reground and screened. The product is then composted for two months to kill weed seeds and remove any possibility of its causing fertilizer burn before it is finally packaged for sale in commercial outlets.

Considerable research has gone into the product, a spokesman said. It has been tested at the Oregon Egg Producers laboratory in Portland, Ore., and found to run 6½% nitrogen. Actual soil tests are said to indicate it is effective both as a fertilizer and a soil conditioner.

PNEUMATIC PROBE IN ACTION—Two men and a vacuum-motor drive the new Cargill pneumatic probe into a wheat pile in the firm's big-bin terminal near Savage, Minn. Company spokesmen say the unit as much as doubles the speed and increases the accuracy with which grain can be probed. Additional 6-ft. long sections of probe pipe, standing in the grain at rear, can be coupled into the unit as needed. Grain samples are "air lifted" up the probe's inner pipe—shown here with the vacuum tube attached—and deposited in the cyclone separator at right.

Cargill Introduces Pneumatic Grain Probe

HUTCHINSON, KANSAS—A vacuum-powered pneumatic probe that uses airpower to penetrate and take samples from stored grain was introduced here by Cargill, Inc.

The unit, called "Probe-A-Vac," is said to as much as double the speed and increase the accuracy with which large piles of grain can be sampled, inspected and treated.

The unit's debut came at the Grain Elevator & Processing Superintendents national convention here.

"The advent in recent years of larger storage units for grain has made grain inspection more difficult," said F. M. Parkinson, Cargill special products manager. "Probing massive piles of grain has been, at best, tedious and expensive."

The unit, an invention of Cargill's grain research laboratory in Minneapolis, uses air circulation through a tube-within-a-tube and a special pointed nozzle to "eat through" a pile of grain, Mr. Parkinson said.

"Superintendents at 20 Cargill elevators, where the unit has been tested under commercial conditions, report two men can make three probes hourly in wheat 50 ft. deep," he said.

Suction in the inner tube "airlifts" the grain into a cyclone separator where it is held for sample, Mr. Parkinson said.

"The probe can draw a representative cross-section sample of the entire pile or a portion of grain from any desired depth," he claimed. "There is no waiting for the entire probe to be withdrawn before the sample can be inspected."

Maximum recommended probe is 72 ft., although tests have proved successful in bins more than 80 ft. deep, he reported.

Key to the unit is said to be the probe-point nozzle which guides grain into the air flow. Nozzles are available for both fine and coarse grains.

The probe tubing is made in interlocking six-ft. sections, he said.

Other Uses

The unit can be used to place temperature cables, Mr. Parkinson said. A special fitting on the nozzle holds the cable as the probe is forced down, then leaves it in place in the pile as the probe is withdrawn.

"Hot spots" due to insect damage can be treated by penetrating the infested area and pouring insecticide through the tube. The fluid distributes through the nozzle openings into the trouble spot, Mr. Parkinson said.

Additional uses under examination by Cargill include special pneumatic truck and car probers that convey grain directly to sampling rooms; a truck-mounted unit for probing grain stored in other than conventional elevator bins, and adaptations for probing a variety of other granular commodities.

The unit is made in two models. The first carries a 1-h.p. motor and is designed for probes of up to 30 ft. The second is equipped with a 1.5-h.p. motor for deeper probes.

Current models are custom made, Mr. Parkinson said, with production models scheduled for July 1 delivery.

A patent application has been filed on the probe, Mr. Parkinson stated.

ROCKET-LIKE NOZZLE—The rocket-like nozzle examined here by R. W. Bendtsen, Cargill grain research laboratory technician, is the key unit in the firm's newly-introduced grain probe, company spokesmen say. As the pointed tip penetrates a grain mass, slotted openings guide samples into the probe tube for "airlift" ride into a cyclone separator. Nozzles are available for both fine and coarse grains, the spokesmen report. This is the fine grain model.

$500,000 ESTATE

LOUISVILLE, KY. — Mrs. Louise Merhoff Korfhage, 88, who died April 7, left an estate of approximately $½ million. She was the widow of George F. Korfhage, who died in 1929. At the time of his death, he was operating the George F. Korfhage Co. at Preston, Burnett and Louisville, probably the largest retail hay, grain and feed concern in the city or state. Mr. Korfhage also had grocery and cafe interests. The estate goes to two sons and three daughters. They are Mrs. Amelia K. Pfeiffer, Miss Louise M. Korfhage, Mrs. Charles Healy, George J. Korfhage and Henry C. Korfhage.

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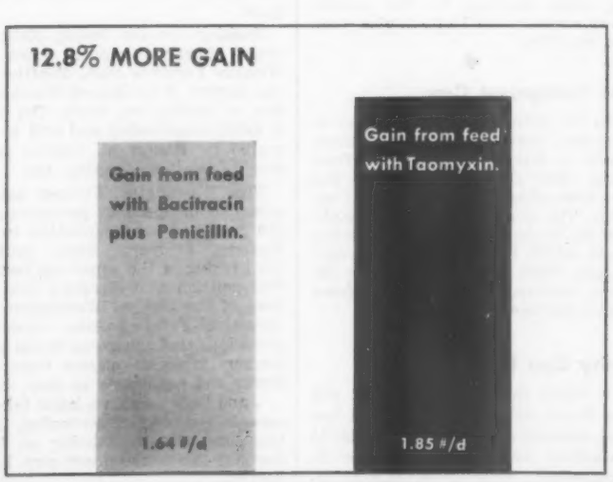

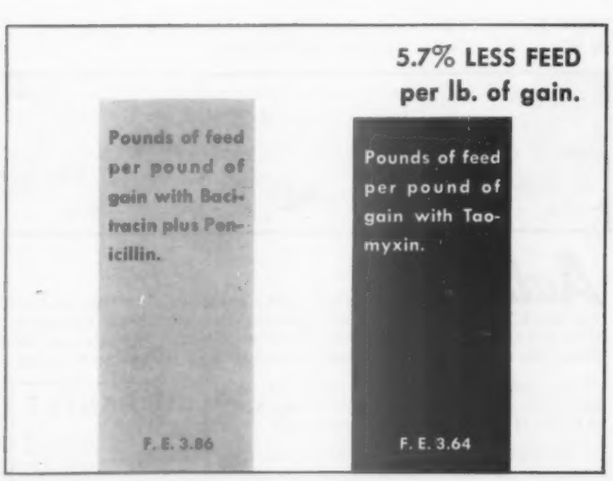
5.7% LESS FEED per lb. of gain.
Pounds of feed per pound of gain with Bacitracin plus Penicillin.
F. E. 3.86
Pounds of feed per pound of gain with Taomyxin.
F. E. 3.64

Taomyxin produced 21 lbs. more gain per day per 100 pigs . . . on 22 lbs. less feed per 100 lbs. gain.

For additional information on the above trials, write for "Synopsis of University Research and Field Trials on Taomyxin" from Chas. Pfizer & Co., Inc., Agricultural Division, 235 East 42nd St., New York 17, N. Y.

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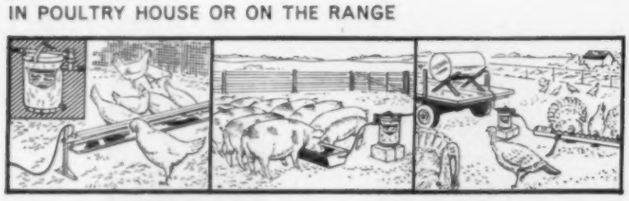

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Abstracts from Abroad

By Dr. Rudolph Seiden

EDITOR'S NOTE: *This is an introduction to a new Feedstuffs column and its author, Dr. Rudolph Seiden of Kansas City, who for more than 25 years has been known internationally as a consultant on veterinary pharmaceuticals. The primary purpose of Abstracts from Abroad is to present abstracts from technical papers, periodicals, books and other publications which report findings of foreign research in animal nutrition and animal health of particular interest to the feed industry in the U.S.*

Rudolph Seiden

Dr. Seiden came to this country in 1935, and since then has gained distinguished status as a consultant, author and editor. He is chairman of the Animal Health Institute's pharmaceutical products committee. Books he has written and edited include "Livestock Health Encyclopedia," "Veterinary Drugs in Current Use," "Handbook of Feedstuffs" (with Prof. W. H. Pfander) and "Poultry Handbook." Although complete references to source material may not be included in Dr. Seiden's abstracts, further information may be obtained by writing to Dr. Seiden at 700 East 63rd St. Terrace, Kansas City 10, Mo.

Russian Workers Report On Trace Element Studies

Russian research workers are indicating considerable interest in trace elements.

According to investigations by A. P. Dimitrocenko, feedstuffs for farm animals should contain a minimum of 32 ppm cobalt and 1.4 mg. copper per pound of dry substance. When cobalt is deficient, cachexia (general ill health) develops in ruminants; copper and manganese deficiencies cause the dark hair coat of ruminants to get lighter in color, and lack of zinc and a surplus of calcium result in parakeratosis of pigs.

THE IMPORTANCE of trace elements is best illustrated by the following figures which were determined for healthy animals: 1 lb. of dried liver substance of cows contains slightly over 11 mg. copper, but it reaches 200 mg. for sheep; 1 quart of cow's milk yields 3,000 ppm iron, 500 ppm copper and 85 ppm iodine, and in 1 lb. of washed and dried cow's hair there are 5.5 mg. manganese and 4.5 mg. copper.

A. A. LACIS FOUND that the fertilization rate of ewes increased when trace elements were made available 10 days before insemination. If they were given throughout the term of pregnancy, the birth weight of the lamb increased by 8 oz. to 1 lb., and the weaning weight was 9 lb. higher than that of the controls.

A REPORT by the investigators Rinkis and Tichonova said that one-month-old lambs put on feed containing trace elements for five months gave a wool yield 19.4% higher than the controls.

◆

The Transparent Cow

In the German Hygiene Museum in Dresden, there has been for many years a human figure made from glass. Now a glass cow of life size has been added to the permanent exhibit. The transparent model weighs 770 lb. It contains 121 small electric bulbs which illuminate 27 important organs while a record gives the listener explanations about their functional purposes.

◆

Dairy Cow Experiments

A Dutch nutritionist, C. J. G. van der Horst, fed milking cows first hay and concentrates, then grass rich in potassium or nitrogen or poor in magnesium. Blood levels and excretions in the feces and urine as well as daily feed intake were determined and compared.

While the magnesium-poor grass caused a hypo-magnesemia (a drop in the magnesium blood level), the addition of magnesium oxide to the feed stopped this condition, which is widely known as grass tetany.

The change from concentrates to grass diet resulted in higher sodium and potassium blood levels and increased nitrogen and phosphorus excretion in the urine. And the addition of magnesium oxide to the feed not only increased the magnesium blood level, but also that of potassium. No significant changes were observed with respect to calcium and manganese.

◆

Mosses Used as Feed

Barbella pendula is a moss which was found to possess nutritive value when fed to poultry and other domestic animals. S. Sugawa, a Japanese investigator, found that the moss, both fresh and dried, contains much riboflavin. He also found that it is acceptable to puppies and chickens when pulverized and mixed into their regular feed. The moss-fed animals gained much more weight than the controls.

100,000-Hen Egg Factory Planned

SPOKANE, WASH.—A super mechanized 100,000-hen laying plant, estimated to cost $500,000, will be completed in the Spokane area within a year, the Washington Farmer reported here.

Two 12,500-hen units of the conveyor belt egg factory already are in operation near Marshall, Wash., about eight miles southwest of Spokane.

Backing for the laying plant includes financial support from the Western Farmers Assn., Seattle, and the owners of Birchwood Hatcheries, Inc., of Bellingham, Wash. The plant is being constructed and will be operated by Robert M. Carter, president of Western Poultry, Inc.

The Washington Farmer said a group of independent poultrymen in the area had sent a petition to the Western Farmers Assn., protesting backing of the super egg factory. The petition told directors that bylaws of the original Washington Cooperative Farmers Assn. contained provisions that the group would leave farmers "free to operate their own farms and businesses as they want" . . . and "will remain a basic farmer-owned and farmer-controlled, self-help organization existing so farm families can make their own living better."

The hens in the plant are fed by continuous conveyor belts carrying feed. They drink automatically-supplied chlorinated water. Cable drawn scrapers remove droppings, which will eventually provide a by-product of commercial organic fertilizer.

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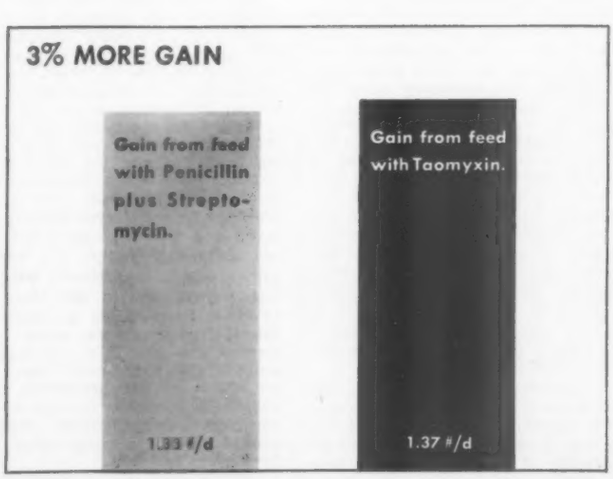

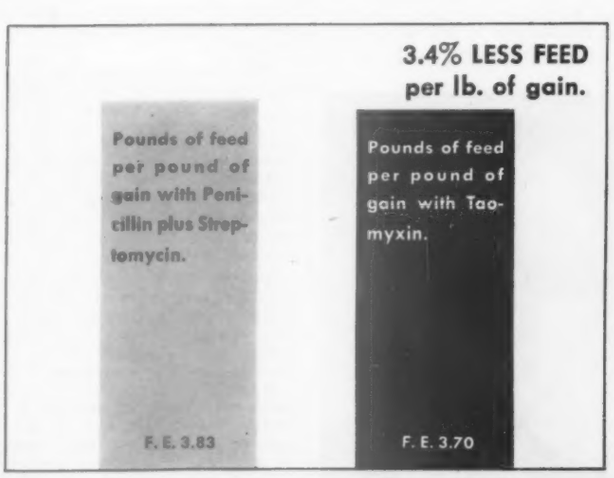
3.4% LESS FEED per lb. of gain.
Pounds of feed per pound of gain with Peni-cillin plus Strep-tomycin.
F. E. 3.83
Pounds of feed per pound of gain with Tao-myxin.
F. E. 3.70

Taomyxin produced 4 lbs. more gain per day per 100 pigs . . . on 13 lbs. less feed per 100 lbs. gain.

For additional information on the above trials, write for "Synopsis of University Research and Field Trials on Taomyxin" from Chas. Pfizer & Co., Inc., Agricultural Division, 235 East 42nd St., New York 17, N. Y.

PART 2—AMINO ACID NUTRITION

A Report on the 1961 Informal Poultry Nutrition Conference

By Dr. J. R. Couch
Texas A&M College

The evening portion of the Informal Poultry Nutrition Conference in Atlantic City was devoted to amino acid nutrition. Speakers appeared on this program from Utah State University, South Dakota State College, Texas A&M College, Rutgers University, University of Illinois, University of Delaware, University of Arkansas and University of Minnesota.

New ideas which were brought out during the "amino acid nutrition" discussion included the importance of non-essential amino nitrogen and a discussion of the possible mixtures of amino acids for growing chicks which would more nearly attain the levels of growth obtained with mixed proteins. The amino acid silhouette for the evaluation of amino acid balance is also a new idea. Finally, it was definitely pointed out that sesame oil meal supplemented with lysine contains a superior combination of amino acids to that of soybean oil meal. It was also brought out during the discussion that it is the absolute intake of amino acids, rather than the concentration of the amino acids in the diet, which is of significance.

GROWTH—The first three papers were concerned with growth, and the first paper in this series was given by the writer and was concerned with the lysine supplementation of broiler diets. DL-lysine was supplemented to diets in which the principal sources of protein were: (1) soybean meal, (2) sesame oil meal and cottonseed oil meal, (3) sesame oil meal, cottonseed oil meal, fish meal and meat and bone scraps, (4) soybean oil meal, meat and bone scraps and fish meal, and (5) sesame oil meal, meat and bone scraps and fish meal. Three experiments were conducted, and some rather interesting data resulted from the investigations.

"More Desirable Source"

It is a well established fact that sesame oil meal and cottonseed oil meal are deficient in the amino acid lysine. Soybean oil meal, on the other hand, is adequate in this amino acid. The most interesting point which was brought out in the paper was the fact that sesame oil meal appears to be a more desirable source of protein for chick growth and particularly for feed conversion than does soybean oil meal when the sesame oil meal is supplemented with lysine. It is a well known fact, as pointed out above, that the sesame oil meal is deficient in this essential amino acid.

Dr. J. R. Couch

The data might not be considered of any particular significance in the U.S. since sesame oil meal is not a major product of commerce except possibly in the Pacific Coast area. Yet, experimentally, the research nutritionist has been and is continually searching for a better source of protein to use as a standard.

It appears from these investigations that sesame oil meal supplemented with lysine produced better results than does soybean oil meal alone. For example, in one study the feed conversion at the end of the experimental period (8 weeks) was 2.31 for the soybean oil meal positive control basal and 2.09 when lysine was added to a diet containing sesame oil meal and cottonseed oil meal. In the second experiment, the group of birds fed sesame oil meal had a feed conversion of 2.12. A similar group fed soybean oil meal, meat and bone scraps and fish meal had a feed conversion of 2.04. When sesame oil meal was supplemented with lysine, the feed conversion was 1.85. The sesame oil meal group when supplemented with fish meal and meat meal was 1.96. Thus, it is apparent from this report that supplementation of sesame oil meal with lysine provides a very desirable combination of amino acids for the chick.

Amino Acid Silhouette

The Michaud method of expressing amino acid requirements in the form of an amino acid silhouette, which is simply a graph representing the percentage of amino acids in a ration in relation to the therm or energy content of the diet. Dr. Michaud of Merck & Co., Rahway, N.J., first presented these data before the annual meeting of the Southern Agricultural Workers Assn. in Jackson, Miss., in February.

When the data presented by the informal conference were plotted in this maner and examined critically, a few noteworthy points were immediately apparent. In this first instance there was an outstanding deficiency apparent in arginine and glycine. The glycine deficiency might not be of too much significance; however, the low arginine may be of considerable importance.

Another deficiency noted in this regard is that of the cystine and methionine combination. These deficiencies were noted (arginine, methionine, cystine and, in some instances, tyrosine) in diets where soybean oil meal, fish meal and meat and bone scraps composed the major portion of the protein. Such deficiencies do not appear to be apparent when a sesame oil meal diet supplement with lysine is used. In this instance, a level of .25% lysine is added.

One other point of interest from the Texas work was the fact that a growth response and a feed conversion improvement were obtained when lysine was supplemented to a diet containing soybean oil meal as the principal source of protein. Such responses were noted between the fourth and eighth week of the growing period of broiler chicks. There was absolutely no difference in the average weights of the birds with or without lysine supplementation at four weeks; however, at the end of 8 weeks the lysine-supplemented, soybean oil meal-fed birds weighed 65 grams more in one case and 88 grams more in another. These diets did not contain sources of animal protein, but did contain supplementary sources of unidentified growth factors including dried whey, distillers dried solubles and an antibiotic fermentation residue. These data have not been confirmed by other workers. It would be desirable in the future, however, to study lysine supplementation of soybean oil meal diets with chicks between the fourth and eighth week. It is possible that the lysine requirement may be increased during this period.

Dr. Hans Fisher, Rutgers University, commented at the completion of the paper from Texas A&M to the effect that in studies at Rutgers, sesame oil meal supplemented with lysine had been found to be superior to soybean oil meal diets.

Turkey Diets

The second paper in the growth phase of the amino acid program was presented by Dr. P. E. Waibel, University of Minnesota, St. Paul, and the title of the presentation was "Amino Supplementation for Starting and Growth Turkeys fed Corn-Soybean Meal Type Diets." The data showed that lysine produced a growth response with a corn-soybean oil meal type diet and that methionine produced a growth response when used at a level of one-tenth percent at 8 weeks of age.

The important point about this presentation was the fact that the growth response which was apparent at 8 weeks was still in effect at 20 weeks. According to Dr. Waibel's data, methionine is the first limiting amino acid in a turkey diet containing 20% protein and lysine is the second limiting amino acid. Further from Dr. Waibel's presentation, it might be concluded that turkeys need 22% protein from 8 to 12 weeks and this is in agreement with some of the recommendations which the writer has noted.

The third paper in the growth phase of the program was presented by Dr. C. W. Carlson, South Dakota State College, State College, S.D. The title of this presentation was "The Use of Supplemental L-lysine in Turkey Growing Diets." The South Dakota group also introduced a second variable in addition to lysine, in which case 0.2 ppm. of reserpine, a tranquilizer, was added along with the lysine. In contrast to the presentation from the University of Minnesota, Dr. Carlson did not obtain an effect with lysine supplementation and concluded the lysine supplementation was not necessary when the starting diet contained at least 1% lysine up to 8 weeks of age. There was no meat and bone scraps in the Minnesota diet, whereas diet used by Carlson contained 5% meat and bone scraps. It is generally recognized that formulas for turkey prestarters and turkey starters for the first 8 weeks should be supplemented with DL-methionine or methionine hydroxy analogue. The level that is generally required in this case is about 1 lb. per ton when 30% protein is used in the turkey prestarter and 28% protein in the starter.

Two-tenths percent reserpine fed continuously was slightly detrimental with regard to growth and feed conversion. It is not the intention to use reserpine at this level continuously in the estimation of the writer. It is probably best to use the tranquilizers only when aortic rupture is anticipated and probably during the period of the 12th to 16th week inclusive. Detrimental results are not observed when the tranquilizer is used for short periods and for the purpose of alleviating aortic rupture.

EDITOR'S NOTE: *This is the second of two articles which include summaries of and comments on papers presented at the Informal Poultry Nutrition Conference in Atlantic City. Some really new ideas were brought out in reports at the conference. The afternoon session included papers on pigmentation of poultry products; fatty acids and fats; and calcium, phosphorus and trace minerals. These papers were reviewed in the April 29 issue of Feedstuffs. The evening session was devoted to amino acid nutrition. These papers are reviewed in the accompanying article. The author, Dr. J. R. Couch, is professor of poultry science at Texas A&M College, College Station.*

METHIONINE SUPPLEMENTATION OF LAYING HEN DIETS—There were two papers on the supplementation of methionine or the interrelation of amino acids in diets for laying hens. The first of these was given by Prof. T. D. Runnels, University of Delaware, Newark, Del. The title of Runnels' presentation was "The Effect of Dietary Methionine Supplementation on Egg Production and Feed Utilization by the Laying Hen." There was no difference in egg production of the various groups in Mr. Runnels' experiments. Levels of 16 and 18% protein were used in the Delaware investigations with and without 5% added fat. Methionine supplementation at a level of .13% with the 16% protein diet and .10% with the 18% protein diet improved feed utilization. No effect was noted through methionine supplementation on egg weights, egg production or body weights.

The principal dramatic effect noted in these studies was the fact that these birds were apparently better feathered toward the end of the test when methionine was added to the diet. Birds that did not receive the methionine supplementation had bare backs. bare abdomens and were bare around the necks. If methionine was added to the diet, it was noted that these areas were feathered and the birds that had received the supplementary methionine appeared very much like young pullets just coming into production with regard to feathering.

Thus it can be pointed out from this study that methionine hydroxy analogue supplementation in this presentation improved feed utilization as measured by the amount of feed required to produce a dozen eggs and definitely improved feathering in the layers.

Arkansas Study

The second paper concerned with laying hens was given by Dr. E. L. Stephenson, University of Arkansas, and was concerned with "Amino Acid Interrelationships in Diets for the Laying Hen." Dr. Stephenson used 13, 16 and 19% protein levels. The diets contained 2% meat and bone scraps. This research group also used a laying strain and a broiler strain in two separate types of investigations. Each of the protein levels was supplemented with methionine hydroxy analogue and the diets were fed with and without 5 or 10% fat. The results from the experiment with the laying strain showed that there was an effect from adding methionine to the 13% protein diet, which effect consisted primarily of an improvement in feed conversion. There was no effect on egg production, body weight of the hens or egg weights when methionine hydroxy analogue was added to a diet containing 16 or 19% protein.

The results from the test in which Arbor Acre White Rock line 50 females were used showed no difference from methionine hydroxy analogue supplementation of the diets, but an improvement in egg production re-

(Turn to AMINO ACID, page 163)

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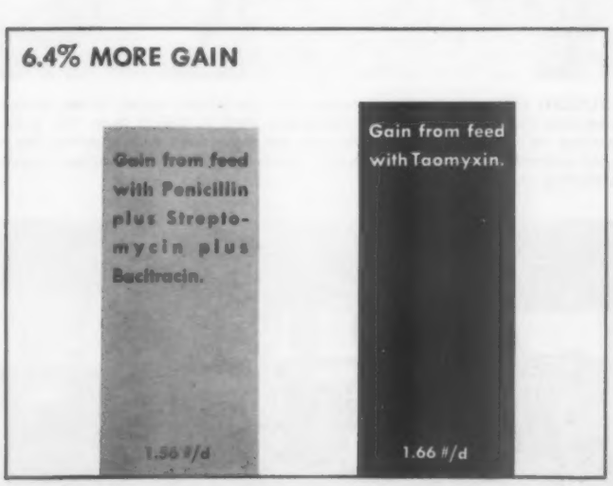
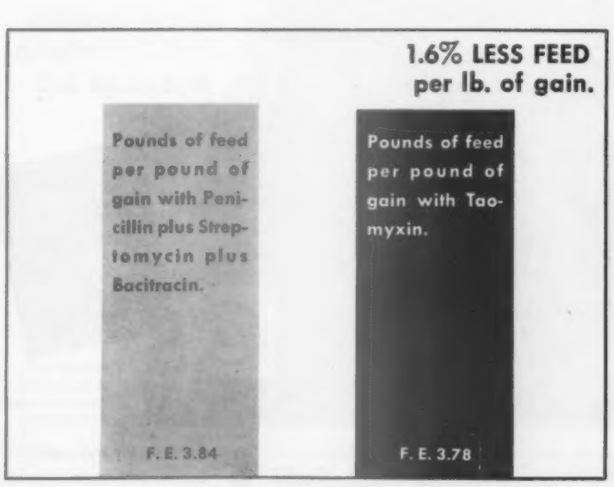
produces more gains at less cost than Penicillin plus Streptomycin plus Bacitracin




1.6% LESS FEED per lb. of gain.
Pounds of feed per pound of gain with Penicillin plus Streptomycin plus Bacitracin.
F. E. 3.84
Pounds of feed per pound of gain with Taomyxin.
F. E. 3.78

Taomyxin produced 10 lbs. more gain per day per 100 pigs . . . on 6 lbs. less feed per 100 lbs. gain.

For additional information on the above trials, write for "Synopsis of University Research and Field Trials on Taomyxin" from Chas. Pfizer & Co., Inc., Agricultural Division, 235 East 42nd St., New York 17, N. Y.

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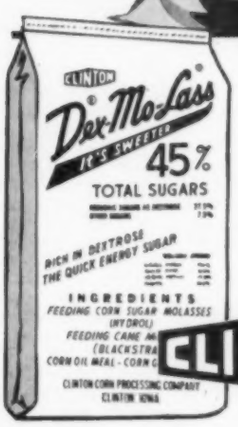
IT'S SWEETER



MOLASSES-RICH—made from highly nutritious ingredients: Feeding Corn Sugar Molasses (Hydrol), Feeding Cane Molasses (Blackstrap), Corn Oil Meal, and Corn Gluten Meal. BONE-DRY—flows freely in hottest or coldest weather. Packed in 50-lb. moisture-resistant bags. SUGAR-SWEET—makes any animal ration more palatable; steps up feed and water consumption for bigger gains. DOUBLY-USEFUL—highly nutritious in rations for all farm animals; scientifically formulated to preserve the quality of silage.

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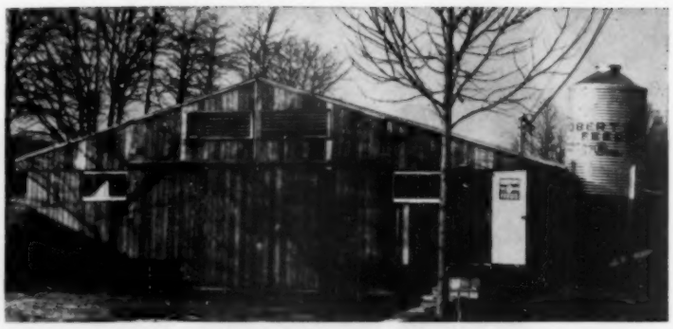

LAYING HOUSE—This is an exterior view of a producer's laying house under the Robertson Corp. program at Brownstown, Ind. Egg producers who operate under the Robertson program, described as "horizontal" integration, do not sign blanket contracts, but they use the firm's feeds.

Indiana Firm Has Coordinated Program for Egg Production

By Al P. Nelson
Feedstuffs Special Writer

A coordinated program for producing and marketing of quality eggs has been developed in south central Indiana by the Robertson Corp., Brownstown, Ind. The feed and grain firm also has plants at Ewing, Bedford, Seymour and Jeffersonville, Ind.

Egg producers who operate under the Robertson program, described as "horizontal" integration, do not sign blanket contracts, but they do use the firm's feeds, called Robertson "Egg Factory Feeds." The producer operates on an independent basis, but the Robertson firm furnishes him ready references for credit sources, equipment suppliers, housing suppliers, hatcheries and quality markets. Producers know before they go into the egg business what their costs are going to be and where they are going to market their eggs.

Through its many years of experience in checking egg costs, the Robertson firm can show the egg producer that feed conversions of under 4 lb. per dozen are routine and those under 3.5 not uncommon through use of Robertson feeds.

Record keeping is stressed in the Robertson egg program, according to Joe Robertson, who operates the mill division at Bedford. Daily and monthly production records are kept, and at the end of each month complete reports are prepared by the corporation for the producer. These reports show production percentage, feed conversions, feed costs per dozen, other costs per dozen, mortality, etc.

Independent Operation

"This is as independent an operation as the producer can get involving management and marketing counsel," says Mr. Robertson. "We show the egg producer where he can get housing, chicks, feed, credit and marketing. It is noteworthy that under this plan the producer receives the egg checks from the egg buying source. The producer then apportions payments from this check."

If the producer needs financing, the

HOUSING INTERIOR—The interior of a producer's laying house, under the Robertson Corp. program at Brownstown, Ind., is shown here. The producer operates on an independent basis, but the Robertson firm supplies him with ready references for credit sources, equipment suppliers, housing suppliers, hatcheries and quality markets.

SLATTED FLOORS—The interior of this laying house, which belongs to an egg producer under the Robertson Corp. program at Brownstown, Ind., features slatted floors, rollaway nests and hanging feeders which are moved on a track to bulk bins for filling.

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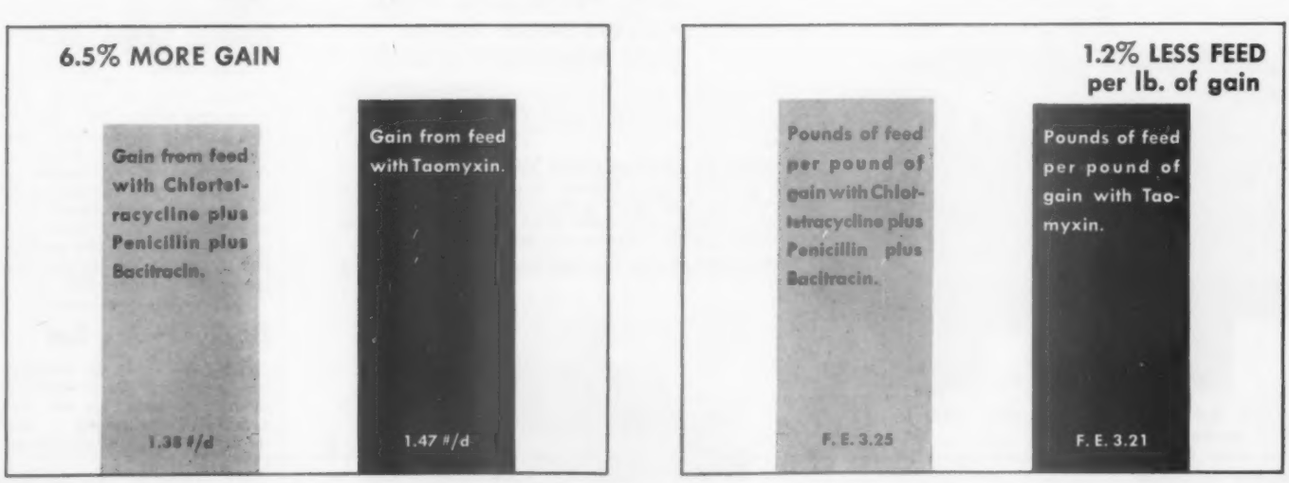
Brand of oleandomycin and oxytetracycline TM

produces more gains at less cost than Chlortetracycline plus Penicillin plus Bacitracin


6.5% MORE GAIN
Gain from feed with Chlortetracycline plus Penicillin plus Bacitracin.
1.38 #/d
Gain from feed with Taomyxin.
1.47 #/d
1.2% LESS FEED per lb. of gain
Pounds of feed per pound of gain with Chlortetracycline plus Penicillin plus Bacitracin.
F. E. 3.25
Pounds of feed per pound of gain with Taomyxin.
F. E. 3.21

Taomyxin produced 9 lbs. more gain per day per 100 pigs . . . on 4 lbs. less feed per 100 lbs. of gain.

For additional information on the above trials, write for "Synopsis of University Research and Field Trials on Taomyxin" from Chas. Pfizer & Co., Inc., Agricultural Division, 235 East 42nd St., New York 17, N. Y.

TRUCKING FACILITIES—Four trucks, with delivery capacities of 4 to 14 tons each, play an important part in the Robertson Corp.'s feed business at Brownstown, Ind. The firm's business includes sale and delivery of feed to 20 egg producers with laying house capacities of 4,000 to 7,000 birds.

Robertson officials introduce him to credit sources such as banks, production credit associations and federal land bank offices with whom the firm has had previous experience. The producer is also introduced to housing and other suppliers. Whatever agreement he makes with banks or suppliers, the Robertson firm does not sign credit papers. It has the egg producing and marketing plan, however, and initiates and supervises it.

Currently, the Robertson firm has about 20 egg producers operating under the program. These producers have between 4,000 and 7,000-layer-capacity houses.

Mr. Robertson points out that the firm's credit policy on the sale of feeds is net 14 days. However, the firm does occasionally extend credit to customers on the basis of an interest bearing note stipulating definite monthly payments in addition to current feed bills. Payments are not tied to the success of the egg operation, however.

Layer Housing

Some of the Robertson egg producers have converted former farm buildings into layer houses. The majority of producers, however, have erected new types of layer houses. One is the modern temporate air house developed at Michigan State University. Features of the new 144 by 36 ft. postless building used by some producers include insulation throughout, time clock controlled lights, hanging feeders, four 48-ft. economatic waterers, 50 rollaway nests with 10 hole sections, wood slatted floors and California redwood exterior siding.

The structure has a 5,000 hen capacity, with one bird per square foot of floor space. The hanging feeders are carried around and filled at a bulk bin. The building has both summer and winter ventilation.

There is one wall fan per 1,000 birds, controlled by a farmostat which works off both humidity and temperature. There is one 10 ft. drive-in door and the building has 38 windows.

A building of this type erected costs about $15,000, according to the Robertsons. And an egg producer, who has 5,000 pullets, may incur additional expenses of $4,000 to $5,000 before his pullets begin to lay. Thus proper credit arrangements are very important in getting these egg factories off to a good start.

About one-third of the producers working on the Robertson program are full time farmers, one third are part time farmers and another third are outside investors.

Cost Allocation

A typical Robertson record of a producer's flock indicates how all costs are allocated.

For instance, a 30-day September, 1960, record of a producer with 5,522 hens at 7½ months of age in the second month of lay revealed that mortality was 25, eggs produced were 128,912, or 10,742 dozen (plus 1%, or 1,276, for loss into litter). Production rate equalled 78.2%.

Pounds of feed used by the remaining 5,497 layers amounted to 36,200 lbs. at a cost of $1,347.21. Grit cost was $22, and other cash cost was $63.35.

The conversion of 36,200 lb. of feed for 10,742 dozen amounted to 3.36 lb. The feed cost per dozen of eggs was 12.5¢. (Remarks at the bottom of this producer's report reveal that production ranges at this age are from 75 to 89%. Conversions from 2.94 to 4.4 and costs from 9.4¢ to 15.5¢.)

Promotion

To back its egg factory program, the Robertson firm advertises regularly in newspapers in the trade area. Pictures are used with copy to show farmers how the egg factories look. Many ads are also published which show the Robertson feed plants, bulk trucks and other modern equipment needed in manufacturing and delivering of feeds.

In addition to its egg program, the Robertson Corp. is encouraging pig producers to develop specialty programs for producing feeder pigs for sale at pig auctions prevalent in the area. The Robertson litter plan takes the pig from farrowing stage to market.

To aid its swine feed customers, the feed firm issues a pork cost calculator and a feeder pig cost calculator as well as a sale record sheet.

Family Enterprise

The Robertson Corp. is a family enterprise. Formerly the Ewing Mill Co., the firm was purchased by Roscoe M. Robertson in 1930. He had started working in the original plant at Brownstown in 1895.

As each of his three sons graduated from college, they became partners in the firm. Additional plants at Bedford, Seymour and Jeffersonville, Ind., were purchased between 1935 and 1945. In 1960, the partnership was incorporated as Robertson Corp. The oldest son, Richard, operates the Farmers Hominy Mill in Seymour; Charles, the second son, is in charge of dog food sales; Joe supervises operations of the Bedford mill and Phil Robertson, a grandson, is manager of the Brownstown mill.

Ed Iverson Elected

SAN FRANCISCO — Ed Iverson, for many years a member of the feed industry and now an insurance executive with the G. Hartman & Co. of San Francisco, was elected president of the famed Merchants Exchange Club here.

In addition, two other industry men were elected to the board of directors—Terry Coonan, vice president of Wilbur-Ellis Co. and Jed Burns of the Jed Burns Co., both of San Francisco. The 56-year-old club is largely composed of feed and grain men and their associates.

Cairo Poultry Exhibit Has Lessons for Both Americans, Egyptians

CAIRO, EGYPT—The poultry marketing exhibit at the International Agricultural Exhibition here is serving two important purposes and already has taught a lesson of great significance to the broiler industry of the U.S., reports Frank Frazier, National Broiler Council vice president, who has represented the U.S. poultry industry at the Cairo show.

The U.S. poultry marketing exhibit, says Mr. Frazier, "is being used to demonstrate proper cooking methods, and second, it is proving that properly prepared, frozen chicken from America is a real treat to enjoy." The lesson: "In markets abroad, as is also true of markets at home, the sale is not completed until the product is consumed and a satisfied customer comes back for more."

The educational accomplishments of the poultry exhibit are important, Mr. Frazier notes, because even though Egyptians have demonstrated enthusiastic acceptance of properly prepared American chicken at the exhibition, an Egyptian government official told Mr. Frazier that the consumption of chicken from the U.S. has dropped from 50 tons per month to about 30 tons per month in 18 months.

Egypt started importing chicken from the U.S. about 1½ years ago under P.L. 480. Mr. Frazier reasons that since Egypt actually subsidized the sale of American chicken, the dip in consumption "cannot be attributed to price changes or to government actions."

Then, why the drop? Well, for one thing, Mr. Frazier learned that Egyptians were attempting to cook the young tender broilers the same way they cooked their own chickens, which were perhaps 2-3 years old at time of slaughter.

So, with the help of the poultry exhibit, Egyptians may start barbecuing their imported broilers instead of boiling them an hour before frying.

Appoint W. J. Orem to Dr. Salsbury's Post

CHARLES CITY, IOWA—W. James Orem, education manager for Dr. Salsbury's Laboratories here, has been appointed territory manager for the firm's Florida and southeastern Georgia sales area, effective June 1. Mr. Orem will coordinate his activities in his new position with Earl Landing, a member of Dr. Salsbury's sales organization at Orlando, Fla. Mr. Orem, with Dr. Salsbury's since 1957, has directed the firm's poultry short course for the past 2 years. A native of New Jersey, he has a B.S. degree in poultry husbandry from National Agricultural College, Doylestown, Pa. In addition, he has about seven years' experience on commercial poultry farms and in hatcheries. He will headquarter at Jacksonville, Fla.

W. James Orem

Dairy Props Set

OTTAWA — Price support levels for Canada's dairy products will remain unchanged for the 12-month period beginning May 1, according to Alvin Hamilton, agriculture minister.

Mr. Hamilton told the House of Commons that the Agricultural Stabilization Board will for the present continue to support the price of butter and cheese by purchasing these products from suppliers at the prescribed support levels.

Wenger's NEW BULK UNLOADER

ENGINEERED TO HANDLE HI-MOLASSES MEAL FEEDS AND HARD PELLETS WITH EQUAL EASE AND GENTLENESS

For the most economical mill to farm service, install the Wenger Unloader on your present truck body and offer your customers satisfying bulk or bagged delivery service.

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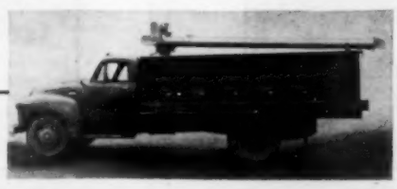
The same rugged features that contributed to this unloader's reputation as the very best on the market for molasses feeds make it an outstanding buy for handling pellets, grains, and mashes.

May be installed by your own shop or the Wenger factory



Write for information giving dimensions and make of your truck bodies. Wenger can also furnish bodies complete with unloader installed.

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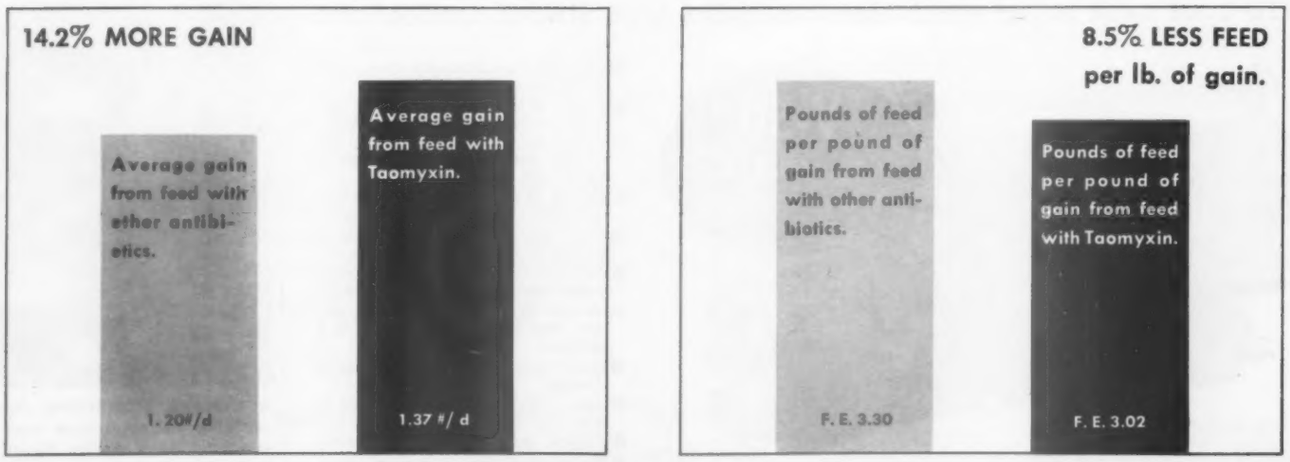
produces more gains at less cost during the starter period


14.2% MORE GAIN
Average gain from feed with other antibiotics.
1.20#/d
Average gain from feed with Taomyxin.
1.37 #/ d
8.5% LESS FEED per lb. of gain.
Pounds of feed per pound of gain from feed with other antibiotics.
F. E. 3.30
Pounds of feed per pound of gain from feed with Taomyxin.
F. E. 3.02

Taomyxin produced 17 lbs. more gain per day per 100 pigs . . . on 28 lbs. less feed per 100 lbs. gain . . . compared with pigs on rations with other antibiotics.

For additional information on the above trials, write for "Synopsis of University Research and Field Trials on Taomyxin" from Chas. Pfizer & Co., Inc., Agricultural Division, 235 East 42nd St., New York 17, N. Y.

Accurate Servicing Ups Sales For Massachusetts Feed Man

By Charles Stratton
Special Writer

The chief contact the mill has with the customer is the feed serviceman. Handled right this free service can win friends and customers permanently. Take the experience of Arthur (Art) Heard of Ipswich, Mass., who puts in 45,000 miles annually servicing dealers and farmer customers throughout New England for E. C. & W. L. Hopkins, Inc., of Greenfield, N.H., manufacturer of Granite State Feeds. In less than two years—through his customers and dealer contacts—business has jumped substantially on feed sales alone.

Prior to his job changeover, Mr. Heard had been pushing a competitive line of feed with the same farm customers and dealers for many years. His customers were well satisfied with their feed, but most dealers handled both lines.

"This is where servicing really tipped the scales in my favor," he says. "The old type of high pressure salesmanship is out as far as I am concerned. Customers resent that type of tactics. Both lines of feed were in the same price field and everything else was about equal."

He points out that a new man might mock his competitor's feed.

TRAVEL—During the war years, Arthur Heard, Ipswich, Mass., feed serviceman, put in 10,000 miles by motorcycle calling on New Hampshire and Maine dealers. Today, he is furnished with a new rented car about every 14 months. Mileage costs average about 5.1¢ per mile.

"But that would be insulting the customer's intelligence," he explains. "The customer has established faith in a certain brand and you don't just tell him it's no good—especially when you've been selling it for years."

3-Point Sales Talk

Instead, he stresses his sales talk with: (1) pointers on savings, (2) feed mill efficiency and (3) value of service work.

Mr. Heard felt that under the new program, he had something to offer his old customers. Through his specialized training and experience—12 years servicing farmers plus 11 years working with sales and dealers—he knew he could make his customers more efficient. To new customers, he explains that his specialized training is valuable to them as well as free.

He claims that the up-to-date serviceman of today has got to give the customer intelligent suggestions as well as answers. "You've got to convince the customer you know what you're talking about," he says. "The first rule is 'Never make a mistake.' Once a customer is sure that you know your job and have established his faith in you as a serviceman, other things, sales included, will fall into line. All my customer contacts are handled on a very personal basis."

He brought out that a serviceman must have a full knowledge of his own business and his company's products as well as be acquainted with the customer's problems and take a personal interest in his business. Many times, day or night, he receives an urgent call from a poultryman in trouble, and his information must be accurate.

"The modern poultryman is well educated and usually has a college background," he explains. "At one time, the poultryman got his answers from a book, but today the changes are so rapid a layman can't keep up and stay in business. That's why the feed serviceman is more important today than he ever was and he's got to stay on the ball. Without him, the poultryman would have a hard time keeping up with the rapid changes."

Mr. Heard is constantly in search for the latest information so he will know the answers when customers ask questions. He adds, "Yesterday's information can be old fashioned." To keep ahead of the trends with new information, the private library in his home is well stocked with the latest textbooks, literature and bulletins, as well as a continuous flow of fresh data on nutrition, disease control, use of new drugs, all types of poultry and dairy management, plus all the latest magazines in the field. This library is not for appearance, and he puts in many evenings reading to keep up-to-date and accurate on the latest information. He also attends disease and health conferences held at the eastern colleges.

Customer Changeover

How does a feed serviceman convince a customer to change over to his new line of feed, especially when only a short time before he talked another brand of feed? Mr. Heard answers this by pointing out that you must have something to offer that will make the customer more efficient in his business. Usually, other

(Turn to SERVICING, page 160)

ACCURATE SERVICING—Accurate servicing increases feed sales substantially, says Arthur Heard, Ipswich, Mass., feed serviceman for E. C. & W. L. Hopkins, Inc., Greenfield, N.H. Here Mr. Heard shows how he carries important data and literature, which is fresh and instantly available for quick reference, in a case in his car.

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- Individual hydraulic drive on each auger makes clearing any jammed auger easier.
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- Pit unloading with bottom auger only.

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Brand of oleandomycin and oxytetracycline TM

adds up in dollars and cents

A summary of 24 trials with over 2200 pigs, comparing Taomyxin with other antibiotics or drugs or combinations of antibiotics, showed the following results.

	CONTROL*	Taomyxin
GROWTH		
Average daily gain—lbs.	1.42	1.52
% increase with Taomyxin compared with other antibiotics or drugs	—	7.04%
FEED EFFICIENCY		
lbs. feed per lb. gain	3.64	3.50
% improvement with Taomyxin compared with other antibiotics or drugs	—	3.85%
ECONOMICS (cost of antibiotic supplements included)		
Cost per cwt. gains**	$11.794	$11.372
Savings with Taomyxin per cwt. gain	—	0.422
Savings per pig (180 lbs. gain)	—	0.760
Savings with Taomyxin per 100 pigs	—	$76.00

*Control feeds were fortified with other antibiotics, combinations of antibiotics or other drugs.
**Basal ration $64 per ton without antibiotics or other drugs.

The extra gains per day with Taomyxin mean your customers can market their hogs 9 days sooner

---

The extra gains per pound of feed mean they can save $76 in feed costs with every 100 hogs

Current and New Financing Methods In the Feed Industry

Integration and Its Effect on the Industry

By Wayne D. Nusbaum
Treasurer, Ralston Purina Co.

There are, basically, two kinds of integration. They are horizontal and vertical. Vertical integration is the most common kind, and the one that we usually think of when we say "integration." Vertical integration is where all, or some, of the various steps in a production process are owned or controlled by one management.

For instance, a steel company that is integrated would mine its own ore, operate its own smelter, have its own rolling mills, and have its own coal mines. It would control the production of steel from the raw ore to the finished product. A further step in integration would be an automobile company that owned its own integrated steel company. It would control the production of its automobiles from the raw ore in the ground to the finished car. This is vertical integration.

I suppose the most vertically integrated poultryman would be the farmer who raises his own grain, keeps his own flock of chickens, hatches his own chicks, feeds them his own grain, and then kills them and eats them himself. In our industry today, when we speak of vertical integration, we usually mean an operation that hatches its own chicks or poults, raises them through controlled growing operations, and processes them in its own processing plant. The feed mill may or may not be a part of the integrated operation. Also, of course, some people can be in different stages of integration. One man may control his own breeding flocks, while another man buys eggs. One man may own his own processing plant, while another is integrated only up to that point. But this is the type of thing that is going on widely in our industry and this is the type of integration that I am going to be discussing primarily.

Horizontal integration is the operation of a number of similar type companies by one company. For example, a number of hatcheries operated by one company could be said to be horizontally integrated. For that matter, I guess you would say that the Ralston Purina Company is horizontally integrated. We have a number of plants, all doing essentially the same thing, and all reporting to one over-all management group. The advantages of horizontal integration are that you do use the same top management for all plants; you can eliminate the inefficient plants or expand the efficient plants, and the resources of all can be used for the benefit of the individual plant. For example, in our case, each individual plant could not afford the research facilities of our company; but by all plants contributing, we can afford them, and these facilities, in turn, benefit all plants. There is a good deal of merging, buying out, etc., going on today to achieve horizontal integration, but this has not had the same dramatic effect on our industry that the vertical integration has, so in my remarks here, when I say integration, I mean vertical integration.

Direction of Integration

It is not my purpose here to discuss the pros and cons of integration. I don't intend to debate the subject of whether or not integration is good for the industry, but simply accept it as an established fact. I would like to bring you an up-to-date report of where integration stands today, a little background of how it got there, and a few suggestions as to where some people, at least, think it is going.

Some firms had some measure of integration at least 20 years ago. The New England area has been almost totally integrated for many years. Practically all the broilers produced in that several-state area are controlled by a handful of large operators and have been for a long time.

What happened to make this trend stop for a period of years? Or, at least slow down? Well, of course, World War II intervened. Many of you will recall—quite painfully perhaps—the long period of OPA, allotments, shortages, etc., that we went through during the war period. Everyone could sell just about everything they could get their hands on, so there was no great incentive to enlarge or expand their operations vertically. It would probably have been pretty hard to do, anyhow, with all the wartime regulations. With prices and wages controlled, materials in short supply, and the uncertainty of wartime conditions, just about everyone had all they could do to keep their present organization intact and functioning. Manpower, of course, was a prime consideration.

Trend to Specialization

Then, after the war, there was quite a trend to specialization. Maybe because so many men were in the service or war-time industries and saw how they concentrated on specialists of one kind or another, they brought some of that thinking back to civilian life. Anyhow, after the war there was quite a trend to specialization. Breeders specialized in breeding, growers specialized in growing, the feed manufacturer specialized in manufacturing feed, and the processor specialized in processing, etc. Actually, great strides were made in all fields because of this specialization and all phases of our industry made rapid advances.

Wayne D. Nusbaum

AUTHOR—Mr. Nusbaum is a graduate of the University of Washington. He was a bond trader and statistician prior to becoming a grain buyer for Taylor Milling Corp. In 1946 he joined Ralston Purina Co. as manager of the Stockton, Cal., plant. In 1955 he became manager of the firm's Ft. Worth plant. On Oct. 1, 1960, he became treasurer of the firm with headquarters in St. Louis. He served two terms as president of the Texas Feed Manufacturers Assn.

It was during this period that some of the greatest contributions were made. The wartime developments of penicillin, Aureomycin and other antibiotics, together with discoveries in nutrition, made feed conversions possible that were unheard of before. In fact, the large operations that are familiar today would not be possible if it were not for the advances in sanitation, medication and nutrition that were made in the post-war period. The strains of broilers and turkeys that provide the bulk of the breeding stock for today's large operations were brought to fruition after the war. And the advances in bulk handling equipment and automatic feeding equipment were all developed after the war. All of these things combined have made it possible for one man to take care of 30,000 and 40,000 broilers, where before the war the standard broiler house was one of 3,000 birds. This was the great era of specialization and all phases of the industry made their contribution.

Why, then, do we hear all of the talk about, and see so many evidences of, integration today? What happened to stop the swing of the pendulum toward specialization and start it swinging toward generalization? Why this great and concerted "urge to merge"? What were the developments that decided people to slow down, or stop, their specialized operations and start combining them with other phases of production into these integrated operations?

Money Is the Reason

This is fairly simple to answer. Money—the lack of it, or the need of it, or the having of it. The capital requirements of today's large operations are such that it is very difficult for one man to provide them out of his individual efforts. For many people, the amount left out of earnings after taxes just wouldn't supply their needs in a rapidly expanding industry. In order to keep up with the latest developments in a highly competitive situation, the operator found more and more demands for additional capital.

For instance, one development was the change-over to bulk handling of feeds and feed ingredients. This called for tremendous outlays of money for bulk handling equipment, bulk trucks and bulk bins at the farm and, even though in the long run this bulk handling effected economies that made it a profitable thing to do, it still called for large initial capital expenditures.

With the trend to bulk came the trend to larger and larger operations. The small operations just couldn't justify the spending of large sums of money for bulk bins and automatic feeders. The operation had to be large enough so that the savings would justify the expense. In turn, these large, efficient operations were able to cut costs and therefore sell at lower prices. Lower prices had a tendency to increase the demand, which stimulated larger and larger operations.

I think the history and development of this trend is familiar to most of you. You have all seen the rapid trend to fewer and larger operations that has taken place since the war. This has been caused by the cost-price squeeze on profits. As the per unit profit becomes smaller and smaller, the operator—be he breeder, hatcheryman, feeder or feed manufacturer—has but two choices if he is to maintain income level: either get bigger, or get out. As you know, a lot of the marginal operators have gotten out; consequently, the numbers are smaller. The efficient, well-financed ones who stayed have expanded. They have a smaller per unit profit, but they have more units, so the total income stays up in the profitable brackets. From time to time we would have large surpluses, with resulting very depressed prices. Over a period of time, these low prices have become the normal price for broilers, with the consequent additional squeeze on profits.

One Profit

The price the consumer is willing to pay in the market will no longer support a maximum profit on each individual phase of production: the breeder, the hatchery, the chick, the feed and the finished bird. We are rapidly approaching the time—if we are not already there—when there will be only one small profit on the finished bird that will have to carry the load for all the various segments of the industry. This is particularly true of broilers today and is becoming more pronounced in commercial eggs and turkeys.

Already we are seeing signs that the turkey industry is becoming more and more integrated and the profit per unit is being cut. At the National Turkey Federation convention in January, the turkey men were told by C. N. Thurnbeck, Forest Lake, Minn., the retiring president of the National Turkey Federation, that "feed companies will be forced into more contract growing operations to maintain feed volume and they will have to assume more detailed management responsibilities in their contract growing operations." Mr. Thurnbeck also said that "feed firms must assume marketing responsibilities, and many will enter into contract arrangements for scheduled processing and marketing of their turkeys." He pointed out that competition will require the utmost in efficiency of feed mixing and feed merchandising to stay in business. Many outmoded plants with high labor costs and high cost merchandising programs will go out of business. This suggests, I believe, that the trends indicated by broilers are being followed by turkeys.

Since broilers seem to be leading the way, I will discuss some of the latest developments in that section of our industry—but the signs are pointing to the fact that sooner or later these developments will apply to all segments.

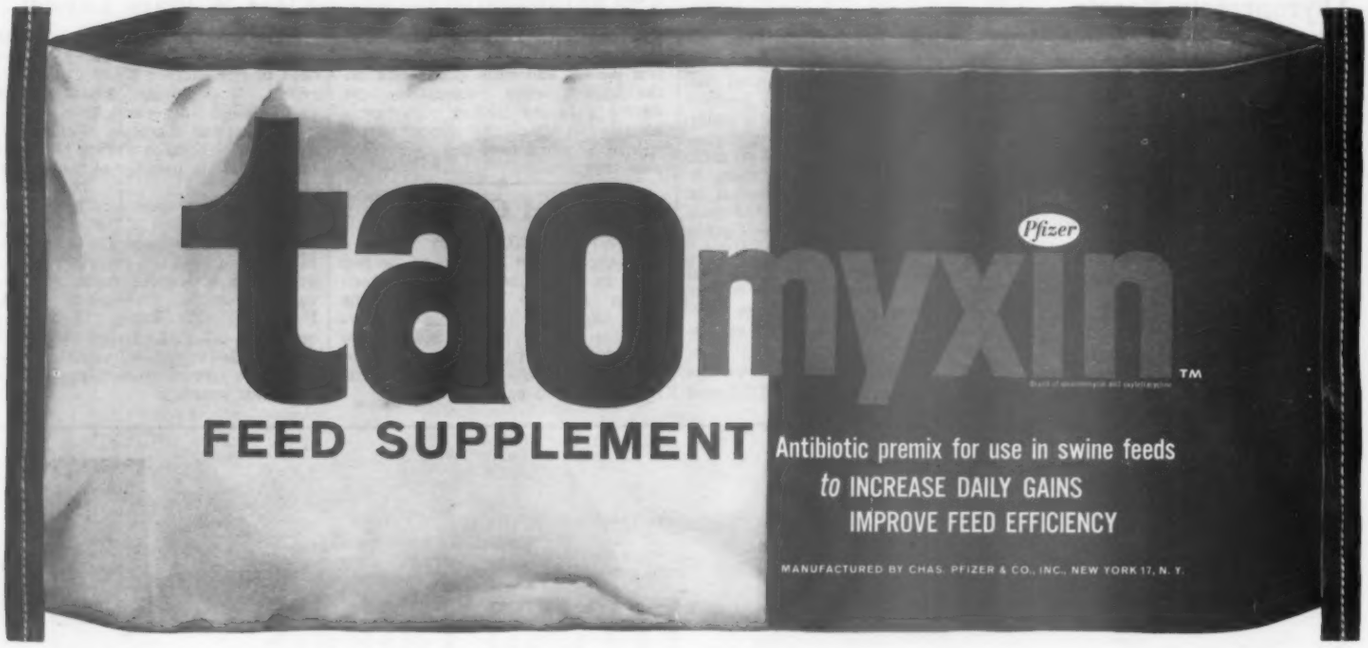
Large Capital Investment

First, of course, it is no longer possible to start out in the broiler industry on a shoestring. It takes a large capital investment to get started. Large operations are needed for efficiency and because of the small margin of profit per unit. Like the feed industry, broiler raising is becoming a large volume, small profit per unit business.

This large capital investment is important because the man who puts up the money is going to control the operation. The man who puts up the money wants to know that it will be an efficient operation, that his money will be relatively safe and, above all, he wants to know that he is going to get an adequate return on his investment. Therefore, he is going to call the shots to be sure the operation is profitable.

As Mr. Thurnbeck pointed out in the case of turkeys, it is also true in broilers that the entrepreneur, or integrator, or whoever is putting up the money, is going to maintain more and more management control over

(Turn to METHODS, page 156)



can help you increase swine feed sales

Here's how:

It can give you new—and outstanding—gain and feed performance features to sell.

Swine producers will be given more reason than ever to switch to your good feeding program.

The tests reported in the preceding pages give you some idea of the performance of this new feed additive.

Taomyxin is a new dual antibiotic formulation developed from research on a new antibiotic discovery—Oleandomycin.

The first tests with Oleandomycin showed that it could increase gains and feed efficiency. Further tests showed that when Oleandomycin was combined with Terramycin*, the combination could produce more gains . . . more efficiently than either antibiotic alone.

And this new combination showed better performance in tests comparing it with other antibiotics or drugs . . . or combinations of antibiotics used in swine feeds today.

Testing by Pfizer, the feed industry, colleges, and on many hog farms has shown the recommended level of Taomyxin to be 8 grams Terramycin to 2 grams Oleandomycin.

This level is recommended for use in all swine feeds where increased performance is of prime importance . . . in growing, starting and finishing feeds.

Brand of oxytetracycline—Reg. U. S. Pat. Off.

How to Find Out More About Taomyxin

Your Pfizer representative has complete details on supplementing your rations with the new Taomyxin and with Terramycin.

He can give you complete test results, record of trials and more information. He can also tell you about the advertising and merchandising support being put behind this breakthrough in swine feeding . . . another way Pfizer is proving:

We're selling the need, to help you sell the feed

Terramycin® when used alone at high levels gives superior performance when disease risk is high.

Terramycin has never let up in disease-fighting ability . . . it continues to give outstanding results for protecting pigs when the disease risk is high.

There's still no antibiotic . . . or drug of any kind . . . that's effective against more kinds of disease organisms.

That's why Terramycin by itself is recommended at high levels in starter rations when disease prevention or treatment is desired. This gives your disease-fighting feeds the performance they must have at times of high risk.

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Thyroprotein Boosts Milk Production At Lactation Peak

NEW BRUNSWICK, N. J. — Two Rutgers University researchers have reported that addition of thyroprotein to rations will increase milk production even at the peak lactation rate.

H. A. Tucker and Dr. R. P. Reece say that feeding of three extra pounds of grain per day increased peak milk production 1.3% but feeding of added grain with thyroprotein increased peak milk production 9.8%. They say that the differences are highly significant and suggest that thyroid secretion rate may be a limiting factor in milk secretion at peak of lactation.

The Rutgers researchers said, "It has been generally believed that the main limiting factor in milk production at the peak of lactation is udder capacity. Since the feeding of thyroprotein will usually increase milk production in declining lactation, it was of interest to determine if it would increase production at the peak of lactation provided additional grain was fed.

"Eleven Jersey and seven Brown Swiss cows were used and two to four weeks usually elapsed between calving and the beginning of an experiment.

"The grain ration for all cows was a high-energy feed (74% TDN) and it was fed throughout the experiment at a 1:3 grain-to-milk ratio.

"Seven consecutive days at the peak of lactation made up the control period and milk production on the highest seven consecutive days during a 14-day feeding period was used to represent the maximum response to extra feed and extra feed plus thyroprotein."

Dog Food Change

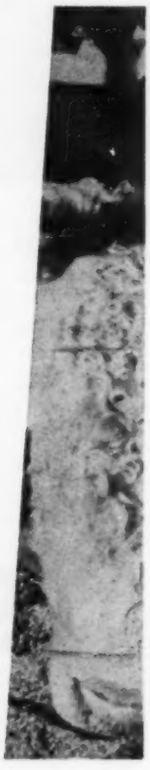
WEST SPRINGFIELD, MASS.—A change in the formula of its dog food has been made by Eastern States Farmers Exchange. Citrus meal had been included in the formula to supply pectin. Researchers indicated that this source was not necessary and that removal of citrus meal improved palatability.

Elect William Larson

BUFFALO, N.Y.—William L. Larson, Cargill, Inc., was elected president of the Buffalo Flour Club at a recent election-dinner meeting held at the Hotel Stuyvesant here.

Mr. Larson succeeds William P. Thornton of Ralston Purina Co., who now becomes a member of the executive board.

Other officers elected include: Gordon G. Terwiliger, T.D.F. Co., vice president, and James E. O'Connell, Standard Milling Co., secretary-treasurer. John A. Hunter, American Elevator & Grain, division of F. H. Peavey & Co.; Bruno Tasch, Cooperative G.L.F. Exchange, Inc., and Robert Gelbort, Continental Grain Co., were named as members of the executive board.



Feedlot rations may fall short of the amount of phosphorus required for optimal gain and feed conversion

"Western rations generally will have .14-.20%, or about 18-25 gm. of phosphorus. Actually, most rations which I have checked run around 19 gm. From this, it is readily seen that while our feedlot rations are not seriously deficient in phosphorus, and generally meet maintenance needs, they do fall short of the amount required for optimal gain and feed conversion," says John W. Algeo, Consulting Animal Scientist, in a paper presented to the California Animal Industry Conference.

Algeo noted that even though phosphorus requirements can be met with only a few grams of material, it is readily identified as one of our most important nutrients.

In discussing dicalcium phosphate, Algeo said, "The product contains about 18% phosphorus and 24% calcium and is low in fluorine, approximately .12%. The biological availability of phosphorus from dicalcium phosphate is excellent. In fact, it is probably the most available phosphorus found in the commonly used sources. Dicalcium phosphate is a good product for supplementing rations which contain nearly adequate calcium levels, and require only a small amount of calcium supplementation in addition to phosphorus."

DIKAL GUARANTEED UNIFORM ANALYSIS

Phosphorus	Calcium	Fluorine
18.5% min.	20.0% min. 23.0% max.	0.12% max.

Screen analysis: All through 20 mesh; 80% to 90% on 200 mesh.

Smith-Douglass Granular DIKAL is 18.5% analysis, all of which is biologically usable phosphorus. From Texas City, the only feed grade dicalcium production point west of the Mississippi River, you receive faster, more dependable service.

IQ — INTEGRITY AND QUALITY IN PHOSPHORUS

To potentiate good phosphorus feed supplements into extra profits, you're invited to meet our I.Q.

Let us figure the cost of DIKAL delivered to your plant

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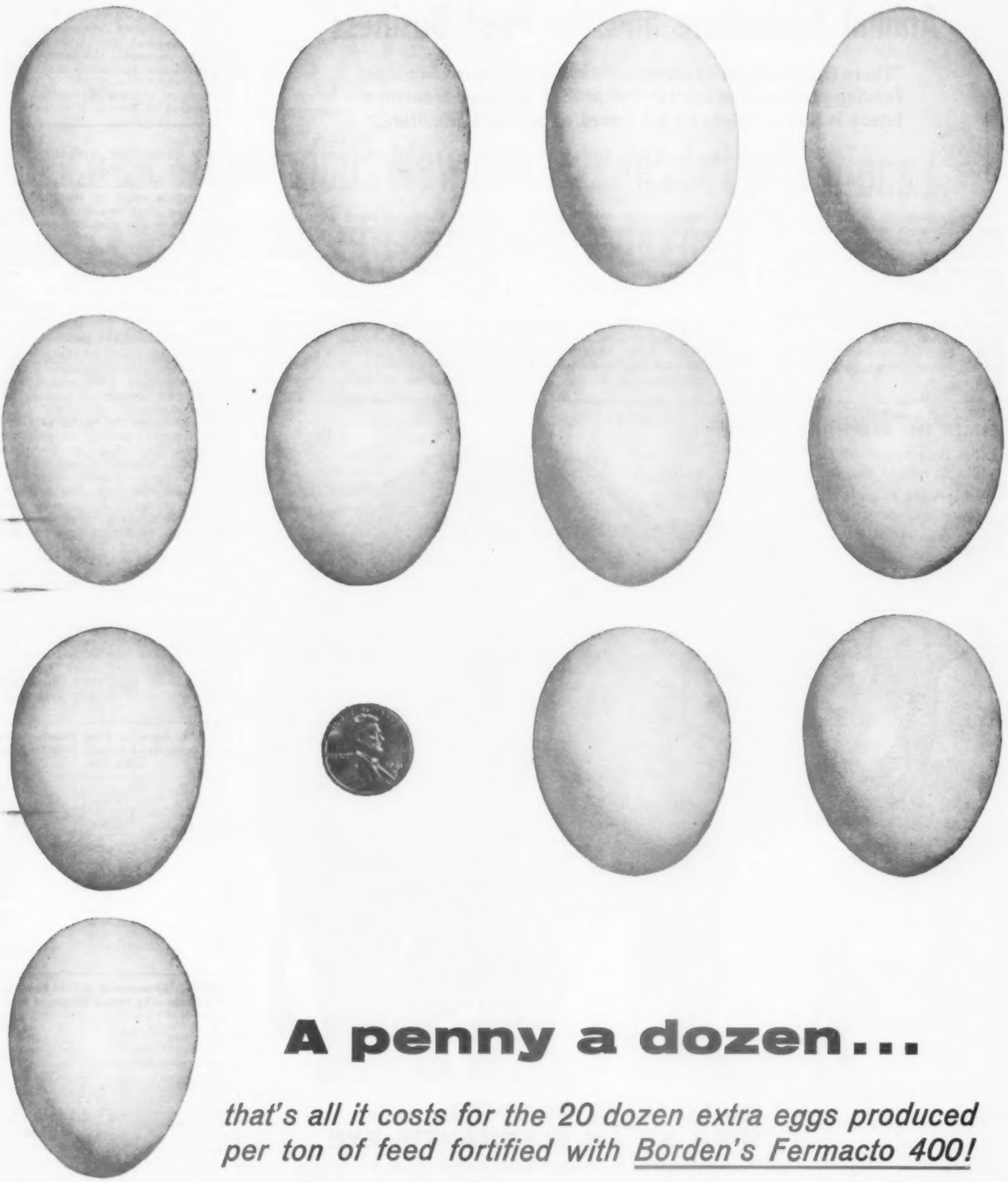

A penny a dozen...

that's all it costs for the 20 dozen extra eggs produced per ton of feed fortified with Borden's Fermacto 400!

Three consecutive years of field testing have more than demonstrated the value of ®FERMACTO 400 in improving laying rations. Flocks on FERMACTO 400 – Borden's exclusive blend of multiple fermentation factors – showed an average increase of nine eggs per hen (on a hen housed, no culling basis), an extra 20.86 dozen eggs per ton of feed. With eggs at 40¢ a dozen, a gross return of $8.34 was reported. Minus the 20¢ cost of FERMACTO 400 (two pounds/ton of feed), there was an average profit of $8.14 per ton of feed. Whether you augment or replace costly animal proteins or other U.G.F. sources with FERMACTO 400, your growers are assured of consistent and significant boosts in egg production and feed efficiency. Use FERMACTO 400 in your next batch of feed and save dollars in the mill... make dollars on the farm!

Write for a complete set of data and current price quotations. Be sure to ask about our complete, custom service. We can help you build a better feed, more economically, too. Borden's Feed Supplements Division, 350 Madison Avenue, New York 17, N.Y.

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Animal Agriculture and the Feed Business

"There is still a lot of challenge and room for improvement in feeding practices, utilization and profits. The feed industry's future is just as bright as the future of animal agriculture."

By Dr. L. A. Wilhelm
The Quaker Oats Co.

The commercial or formula feed business is well aware of its stake in animal agriculture. Today's feed business is the animal agriculture of the U.S.—the 320 million laying hens, the 1.9 billion broilers, the 92 million turkeys, the 95 million hogs, the 97 million cattle, the 38 million sheep, the 33 million dairy animals and even the 3 million horses and mules, and other assorted livestock, poultry, pets, game birds and laboratory animals.

The manufactured feed industry—the more than 6,000 feed manufacturers, their production, control, sales and research staffs of over 115,000; the feed dealers estimated at 25,000 and their credit and service departments—is aware of its problems or opportunities in continuing to earn its stake in animal agriculture: Pellets, bulk feeds, complete feeds, concentrates, financing, marketing assistance, government regulations, Food and Drug Administration, and on-farm mixing.

We're aware our business is changing. We know that we lost 19% of our potential customers in the last five years. This trend may be epitomized by broiler farms—17% fewer but production up 78%—or turkey farms, which decreased 48.9% in five years while production increased 32%.

The feed business even understands that its primary customers are the 150,000 "blue chip" performers—those with sales above $25,000 per year. And it understands that current outputs could be matched by: 60,000 hog producers with 100 sow herds, 250 commercial egg farms of 100,000 capacity, 20,000 broiler producers each with 20,000 bird houses and 800 turkey customers with 50,000 capacity each 6 months.

We're aware of our stake in a shrinking, expanding and changing animal agriculture.

EDITOR'S NOTE: Dr. Wilhelm, director of poultry development and market research for The Quaker Oats Co., presented this article as a part of a panel discussion at the 11th annual conference of the National Institute of Animal Agriculture on the campus of Purdue University.

"A Look at the Record"

"Let's take a look at the record." That was a popular phrase nearly two decades ago. Let's take a look at the past decade of commercial feed sales volume.

Table 1 shows the record of a dynamic industry serving an exacting customer. The volume of feed sold varies with numbers of feed consuming units, the profitability of the livestock enterprise and price of feed. But the output of commercial feed has increased much faster than the increase in number of livestock and poultry.

The manner in which this Unimal (the composite of all segments of animal agriculture) consumes its commercial feed is interesting (Table 2).

The 54% of the tonnage that goes to poultry may help explain the absorbing interest of the feed business in anything that wears feathers. Dairy (19%), hogs (14%) and beef and sheep (9%) present real chal-

TABLE 1. American Feed Manufacturers Assn. Estimates of Formula Feed Tonnage, 1950-1960

Year	Tons (millions)	% of 1950
1950	29.1	....
1951	32.8	+13
1952	34.4	+18
1953	33.7	+16
1954	35.0	+20
1955	33.6	+15
1956	35.7	+23
1957	36.0	+24
1958	40.0	+37
1959	40.0	+37
1960	39.5	+36

TABLE 2. Consumption of 1960 Formula Feed Volume by Various Classes of Feed

Class of feed	% of total (1960)
Layer breeder (egg)	24
Broiler	20
Dairy	19
Hog	14
Beef and sheep	9
Starter-grower (egg)	5
Turkey	5
Miscellaneous	4
Total	100

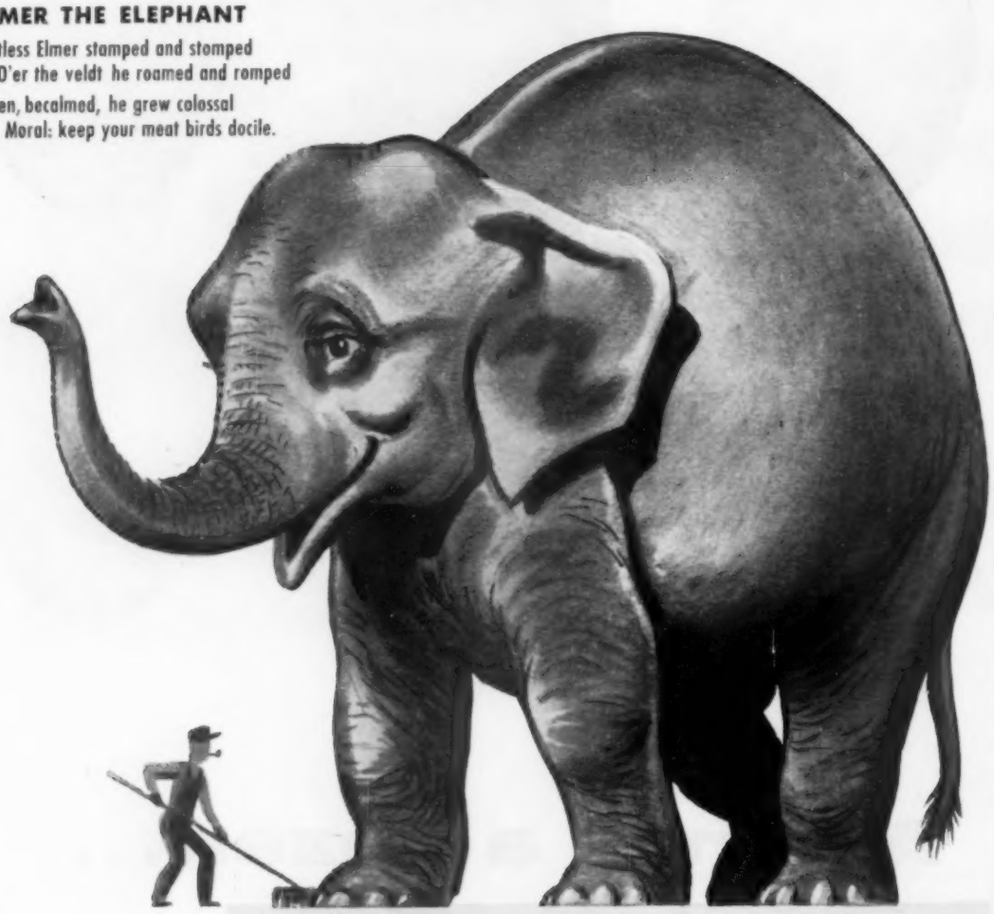
TABLE 3. More Supplements, Less Complete Feeds Sold, Percentages of Total Feeds Which Are Complete Feeds

Class of livestock	1947 %	1958 %
Poultry	90	83
Dairy	88	81
Hogs	52	45

(Census of Manufacturers.)

ELMER THE ELEPHANT

Restless Elmer stamped and stomped
O'er the veldt he roamed and romped
Then, becalmed, he grew colossal
Moral: keep your meat birds docile.



BUILD YOUR PROFITS HIGH AS AN ELEPHANT'S EYE

When a knock on the poultry house door produces a stampede, it's a sign birds are putting on more miles than pounds. They need the calming benefits of LIPAMONE . . . the feed additive that produces a new juicy meatiness. Finish is *fed-in* uniformly.

LIPONIZING allows birds to concentrate on converting feed to quality meat.

Watch for better bloom, tenderness and flavor. There's more Grade A eye-appeal for USDA graders . . . more eat-appeal for store customers.

Build your profits elephant-high with young roasters fed LIPAMONE.

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Discover Tremendous New Advantages in the Nations Finest, Most Complete Bulk Feed Body Line

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FIVE GREAT MODELS! MANY NEW FEATURES!

Visit the premier showing! Meet the newest, finest most carefully engineered bulk feed body line available today. Five new models to choose from! There's one designed for your specific needs . . . everyone's designed for years of faster, more efficient versatile service. See them now . . . AFMA Convention; Booth 186-7.

Model BS-18
The BS-18 offers you a six inch hydraulically driven auger system plus sound workmanship, quality materials and dependability plus the famous Scotchman economy of operation. All of this for a low initial investment!

Model BS-24
Yes, the BS-24 is fast becoming the number one bulk feed unit. This Scotchman with a 6"-9"-9" heavy duty industrial type auger system offers both speed and ease of operation . . . minimizes pellet-feed breakage!

Model BS-30
It's true! The BS-30 with its 9" x 9" heavy duty floor auger; 12" double flight vertical auger; plus a 9" boom discharge auger is the ultimate in efficient bulk feed unloading.

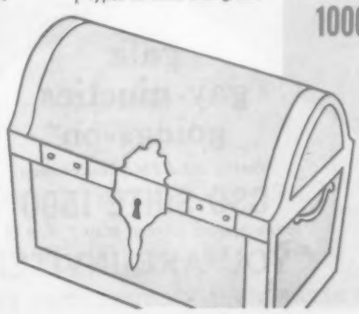
Model SCD-18
The SCD-18 . . . a combination bulk or bag feed and grain body is easily adaptable for varied types of transportation for the feed and grain dealer. A sound investment! Loads as well as unloads through reversible boom discharge auger.

Model BSC-30
The new Scotchman answer to the industry's need for a fast unloading combination bulk feed and grain body. Truly an all purpose unit. Powerful hydraulically driven auger system that assures unloading of all types of feed and grain.

WIN! WIN! WIN!
A Real Scotch Treasure. At booth 186-7, you can try your luck at the Scotchman Treasure Chest! A valuable FREE gift may await you!

MEET MISS BONNIE SCOTCHMAN
at Booth 186-7. Miss Bonnie Scotchman has a surprise for you and she'll lead you to the newest in bulk feed body lines—the Scotchman.

1000 CHANCES TO WIN!
You have one thousand chances to own the key that will unlock the Scotchman Treasure Chest! So visit booth 186-7. Be sure to get your lucky key. Try your luck anytime Tuesday, May 9th, at the Scotchman booth 186-7. YOU MAY BE A WINNER!



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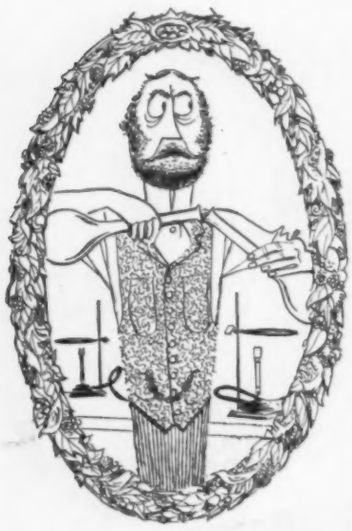

If your feed laboratory is poorly equipped and out of date, it may be . . . and very probably is . . . costing you many, many dollars every month that might just as well be profit. Yet modernization often can be accomplished at surprisingly low cost, particularly when the tremendous advantages of a completely efficient laboratory are considered.

Labconco is the world's leading manufacturer of Kjeldahl apparatus for protein determination, heart of any feed laboratory. We also manufacture virtually all of the related apparatus and furniture you need for a completely modern and efficient feed laboratory. Also, we've had more than 30 years experience in planning feed laboratories throughout the U. S. and abroad.

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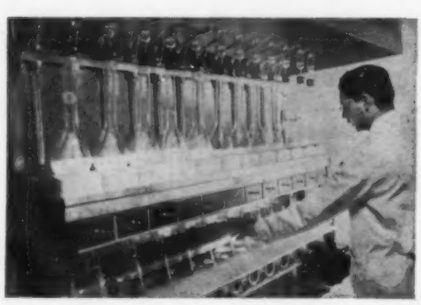

Labconco is the world's largest manufacturer of Kjeldahl apparatus for protein determination, heart of any feed laboratory, also manufactures a complete line of related apparatus and furniture for the feed laboratory.

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lenges to the feed business. And watch for new breakthroughs due to research in these areas in the decade ahead.

To cut costs, utilize more locally produced grains, and get greater flexibility in adding medications, antibiotics and other treatments, more and more of animal agriculture is buying concentrates and making complete feeds nearer to the feed lot and poultry farm (Table 3).

This is a program that many feed manufacturers are helping to finance for both dealers and large producers. It may look odd—offering financial assistance to an operation that helps put a former customer into competition with you—but it's a practical approach, if it makes money for both parties.

Where does animal agriculture get its feed?

A recent study by the National Egg Council of its members may give a little light (Table 4).

This study indicates that an increasing percentage of egg producers are not buying through feed dealers. Furthermore, 25% are making their own feed from concentrates or (3.4%) from the ground up.

Animal agriculture is making increased use of complete feeds even though the use of concentrates is expanding faster (Table 5). Sure, a chicken can digest a whole kernel of corn. A hog can "chaw it off the cob." But as the battle of increased labor, time and feed efficiency is being fought out in hard cash, it simply takes less feed, less labor, less manhours with a properly ground feed.

Expansion of Bulk

Another innovation of the decade has been bulk feeds. This is one that has come about largely at the insistence of the producer. The current acceptance of bulk feeds according to American Feed Manufacturers Assn. records for 1960 is 38%. This varies considerably across the U.S., being highest on the Pacific Coast (60%) and the south Atlantic areas (57%). It is lowest in the "bread basket of the world"—the west north central (25%) and east north central (20%) states. The New England (31%), mid-Atlantic (32%) and mountain (32%) areas have less than one third adoption of bulk. The south central areas—east (55%) and west (41%)—fall only slightly behind the leaders.

A safe prediction on bulk feeds is: It will expand.

Is the market saturated for commercial feeds? Schoeff of Kansas State University answered that question at the 1961 Midwest Feed Manufacturers Assn. annual convention (Table 6).

Increases in poultry and swine feeds have largely contributed to the record of expansion in tons of feed manufactured. There is not too much more expansion in poultry feeds, percentagewise. Hog feeds hold considerable promise—as well as for those of our "double stomach" friends.

There is still a lot of challenge and room for improvement (and sale of manufactured feeds) in feeding practices, utilization and profits. Table 7 from "The Farmer and His Hog Business," a report published by the University of Illinois. in December, 1960, helps illustrate the opportunities in the hog business.

The use of a completely ground feed for a part of the time and corn and supplement the rest of the fattening period led all the rest. But, apparently more hogs, at least in the sample, are raised on a completely ground ration. This study did not indicate whether those supplements were commercially made or not. But this change is the feeding of hogs presents a real challenge and an opportunity to the feed industry to do a better job with hog feeds.

The future of the formula feed business? The future is just as bright as the future of animal agriculture. We recognize that there will be more competition from new marketing co-ops, on-the-farm mixing and ground-up operations on the part of the large operators.

The formula feed business stakes its future in animal agriculture by providing to its customers:

1. Value in high returns per dollar spent.
2. Quality based on years of research and experience.
3. Variety in needs—meal, pellets, crumbles.
4. Added fats and molasses.
5. Bulk handling.
6. Credit and financing.
7. Grain bank service.
8. End product marketing assistance.
9. Know-how in feeding, management and disease prevention.
10. Integrity.

TABLE 4. National Egg Council Survey Indicating Members' Sources of Feed

Source from which feed was obtained	% of all replies
Direct from manufacturer	32.1
From feed dealers	20.8
From feed co-ops	20.8
Mix own from concentrates	22.7
Make from ground up	3.4

TABLE 5. Percentage of Complete Feeds of Total Manufactured Feeds Sold, 1960, by Classes (AFMA)

Class of feed	%
Layer-breeder	73
Broiler	81
Dairy	77
Hog	31
Beef and sheep	31
Starter-grower	90
Turkey	79
Miscellaneous	93

TABLE 6. Manufactured Feed as a Percentage of Total Feed Consumed

Class	1954 %	1959 %
Poultry	70	81
Dairy	30	30
Beef	14	15
Swine	5	11

TABLE 7. University of Illinois Survey of Hog Feeding Programs Followed by Producers

Hog feeding program	% of replies
1. Ear corn-supplement, free choice	12.4
2. Shelled corn supplement, free choice	18.4
3. Complete ground, free choice	27.6
4. Complete ground—corn and supplement part of the time	30.4
5. Other	10.0
6. No response	1.2

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Inspecting a Purina "Pig Parlor" Pilot Project are Glenn T. Webb, manager of Waco Feed Company of Wake Forest and Raleigh, and "Sales Partner" Jack K. Cameron.

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PURINA SALESMAN JACK K. CAMERON working as a "sales partner" with twelve Purina Dealerships in North Carolina, has set up pilot projects on Purina "Pig Parlors," brood sows, steer feeding, caged hens, breeder flocks and has pilot projects on turkeys in the planning stage.

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Test Shows Linoleic Acid May Affect Cholesterol Transport

LAFAYETTE, IND.—Purdue University biochemists report that findings here may reflect an effect of linoleic acid on the transport of cholesterol in experimental rats.

The biochemists say that they have produced fatty degeneration of the inner wall of arteries of young rats (atheroma) by feeding them a high fat diet including 20% of a saturated fat (coconut oil) and 1% cholesterol.

Evidence of this fatty degeneration appeared after the animals had been fed the synthetic diet 20 weeks, Don A. Beeler, graduate research assistant in the biochemistry department, reported at the recent meeting in Atlantic City of the Federation of American Societies for Experimental Biology.

Severe degeneration, shown by histological examination, appeared at 30 weeks and was most pronounced in the females, he said. However, rats fed soybean oil, an unsaturated fat, did not develop serious lesions during the 40 week period of the experiments, it was noted.

Mr. Beeler said that blood cholesterol levels in the rats receiving coconut oil ranged from 400 to 1,000 milligrams per cent (per 100 milliliters of blood). The animals receiving soybean oil developed cholesterol levels ranging from 100 to 400.

Linoleic Acid Added

Rats receiving a high fat diet in which pure linoleic acid was substituted for one half of the coconut oil failed to develop lesions, he said. As little as ½% of linoleic acid added to the diet showed a similar effect. "It was evident that a high fat diet, as such, is not a causative factor in fatty degeneration," Mr. Beeler stated.

Animals were also fed linoleic acid with a fat free diet. These rats received 2% or less of the acid, which is the principal fatty acid in corn oil, cottonseed oil, soybean oil and safflower oil.

At 20 weeks these animals had blood cholestrol levels of 100 milligrams per cent, Mr. Beeler said. Litter mates on the same fat free diet to which linoleic acid was not added showed cholesterol levels of 300 milligrams per cent.

When no cholesterol was fed, rats on low fat diets generally showed blood cholesterol levels below 100 milligrams per cent. By adding 2% linoleic acid to this diet the researchers were able to observe a rise in the blood cholesterol levels of these animals.

Wisconsin Site Selected For NFIA Convention

CHICAGO — Lake Lawn Lodge, Delavan, Wis., will be the site of the National Feed Ingredients Assn. convention Sept. 27-29. The site and program format were approved at a recent directors' meeting in Chicago.

The banquet, scheduled for Sept. 27, will be preceded by a hospitality hour, and a big game hunter has been selected as speaker for the evening, according to Gladwin A. Read, chairman of the convention planning committee.

A meeting of all committee chairmen and the executive committee was set for May 9 at the Pick Hotel in Chicago.

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Richard Magerkurth Forms New Firm

WICHITA, KANSAS—Richard H. Magerkurth has resigned from Grain Merchants, Inc., according to announcement by Mrs. Olive W. Garvey, company president.

R. H. Magerkurth

Mr. Magerkurth resigned to form Air Age Equipment, Inc., in Topeka, Kansas, a company that will distribute high pressure air conveying equipment to the flour milling, feed milling and grain industries.

Mr. Magerkurth has had extensive experience in all phases of flour mill, feed mill and elevator operation. He is a graduate of Kansas State University with a B.S. degree in milling technology. He was formerly in the manufacturing department of General Mills, and is a former superintendent of the Kansas Milling Co. and the Whitewater Flour Mills.

Sales Appointments at Buckeye Incubator Co.

SPRINGFIELD, OHIO—Four sales appointments have been made by the Buckeye Incubator Co. of Springfield, manufacturer of incubators, mechanical feeders and poultry equipment, according to announcement by Jack Hill, vice president in charge of sales.

Richard Lawson has been appointed assistant sales manager and advertising manager for the firm. He will also be responsible for trade conventions.

Joe E. Fewell, formerly sales manager for the Fleming Specialty Co., has been appointed district representative for the firm in the North and South Carolina territory.

Appointed equipment sales supervisor for the company was Hank D. Beesley. He will be responsible for all Buckeye warehouse sales in the U.S.

Roger T. Rebert has been promoted to the position of district sales representative. He will operate in eastern Texas and western Louisiana.

Pellets to Japan

MONROE, WASH.—Wolfkill Feed & Seed Co. here will ship 500 metric bulk tons of molasses screening pellets, a cattle feed, to Yokohama, Japan, reports owner Bud Wolfkill.

The shipment represents the first overseas import of this type of product from the Northwest, although some has been imported from Canada, Mr. Wolfkill said. The product will be shipped via truck and rail to Seattle for loading on an Orient-bound ship. Mr. Wolfkill's previous market for the pellets has been in California and Nevada.

FORM ARKANSAS CO-OP

BRADFORD, ARK.—The White County Grain Drying Cooperative, a new group, has been organized here by more than 100 farmers to build an elevator for soybeans and small grains. Officials said the proposed elevator will have a capacity of 40,000 bu. Beans and other grain will be sent to Stuttgart for storage or for processing into oil and oil meal. Dr. Bernard Smith, Bradford, was elected president of the new group.

A. V. Thomas Dies

NEW BERN, N.C.—Albe Virgil Thomas, 43, vice president in charge of the feed mill and farm relations, New Bern Oil & Fertilizer Co. here, died recently.

Mr. Thomas, a 1941 graduate of Auburn University, came to Craven County in 1941 as an agriculture teacher in the Ft. Barnwell school. In 1945 he became assistant Craven County agent. He served as county agent in Jones County from 1946 to 1950, when he joined the New Bern Oil & Fertilizer Co.

PLAN NEW FEED MILL

ULYSSES, KANSAS—The Ulysses Co-op Oil & Supply Co. will construct a $120,000 feed mill here with completion date set for Sept. 1. Harry C. Morton, Jr., manager, said the mill will have an 80-ton daily capacity. The mill will grind and produce both supplements and concentrates to the individual farmer's order, said the manager.

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Industry is too competitive to leave anything to chance and all factors must be watched. The quality control laboratory plays an important part in your operations by checking the ingredients going into your products to assure you they are up to their guarantee. The high cost of concentrates leaves little choice but to assure yourself that the product is up to analyses and not excessively above. Analysis of the finished product is essential in rounding out your quality program.

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The Truth About Contracts

"Regardless of which direction today's turkeyman chooses to go, whether it be in some form of contract production or reliance on his own initiative and independence, his opportunity for financial success will be in direct proportion to the thought, consideration and study that producer invests in business planning, skillful management and planned marketing."

By William B. Palm, Jr.
Nutrena Feeds

EDITOR'S NOTE: The accompanying article is from a talk given by William B. Palm, Jr., turkey feed sales manager, Nutrena Feeds, at the annual Nebraska Turkey Federation convention held in Grand Island, Neb.

In all animal agriculture there probably is no single phrase so little understood or so much feared as "contract production."

Many believe it spells the end of the independent farmer. On the other hand, many feel it offers them security in a highly competitive market place. And others aren't sure just what it implies, but they don't think they're going to like it.

Let me illustrate.

Assume this ball is contract production. What color is it? It's black, of course. Or is it? When I turn it around, it's red. And again—now it's gray.

Just as this ball appears one color from one side and another shade when viewed from the reverse, contract production is many things to many people. If time allowed an analysis by each person here I'd bet a ton of turkey feed there would be almost as many different opinions as there are people.

Let me establish at the outset that I am here neither to champion nor to condemn any phase of contract production. I hope simply to analyze and examine. Any stand I endorsed might add some excitement to your afternoon, but it would enliven my days for several months to come.

Contracts Not New

Contract production is not new. It has been around in one form or another for quite a long while. I can remember my ranching uncle contracting calves in the spring for fall delivery—at a fixed price—not sure at the time how good or bad a deal he made. Contract production came to the broiler industry quite some time ago. It is relatively new to the turkey industry having been a factor for about 8 to 10 years. Its origin probably dates back to sometime shortly after World War II.

But however important contract production may be today, there is every likelihood that it will become far more widespread in the years to come.

Now, I recognize that that fact may not set well with some of you. But rather than waste our precious time and energy resenting the situation, let's concentrate our efforts on finding how it can best be turned to your advantage.

Before looking at its implications, however, we must understand what a contract is and what contract production is.

Webster defines a contract as a "legally enforceable agreement between two or more persons to do something; the written document that sets out contract terms; to undertake by contract, to incur, or to cause to be acquired."

As you will see, all apply to today's discussion.

There are three basic types of turkey contracts, each different and each subdivided into a broad range of detailed agreements.

The first and most common "contract" is the simple finance agreement in which a turkeyman borrows

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money for use in producing a flock of turkeys.

The money can come from a number of sources—the bank, Production Credit Assn. or perhaps a feed manufacturer.

The procedure is rather routine and I'm certain that at least some of you here have experienced it many times.

The producer figures out a cost projection—including money needed for poults, feed, grain, medicine, vaccine and the like—and provides a financial statement of his net worth and, with the lending company, details this information on a "program and equipment survey sheet." Also added to this survey sheet is a description of the brooder house and other facilities the producer has for raising turkeys.

Loan Contract

If his credit is good and the project appears sound, the loan is usually advanced, secured by an interest-bearing mortgage on the birds. Some large loans, however, may require additional security.

The terms of this contract restrict the producer only in that he must repay the loan with interest. Otherwise he remains free and uncontrolled, and his success or failure depends entirely on his judgment, skill and turkey know-how. That's one kind of turkey contract.

Specification Agreement

Now, a second major turkey contract category is what the trade calls a "specification agreement."

It is unique in that although it is a contract between two or more parties interested in a common objective, there usually is no exchange of money.

As an example, a processor and producer might contract to create a marketing program. The producer would agree to grow and deliver a specified number of turkeys on a given date and the processor would agree to buy that quantity on that date.

As an example of this, I recently heard of a contract wherein a processor who cans a lot of turkey contracted with a man to raise 100,000 toms at a fixed price per pound to be marketed in March, April and May. The producer is able to use his equipment during normally slack periods while the processor escapes last fall's high prices and several months' storage charges. The producer makes a profit and the processor gets a product tailored to his needs. They both gained!

Now, these agreements might, but do not necessarily, include such items as the price to be paid, dates on which turkeys are to be started, weights at which they are to be marketed and the strain of turkey to be used. If a price is established it can be tied to current market quotes at the time of delivery in order to protect both parties from unfair prices.

To be sure in some cases the processor may help finance production, or the producer may own stock in the processing company, but these are merely variations within a general area.

Under a specification agreement the turkey producer surrenders a little more freedom than in a straight loan contract. But in exchange he receives a guaranteed outlet for his birds, and sometimes a guaranteed price or floor. As in simple financing, the responsibility for success or failure of the venture still belongs to the producer.

Contract Feeding

The third major category, and the one around which most controversy revolves, is "contract feeding."

In this program, the producer is hired to raise turkeys for a fixed price.

The contractor retains control over all phases of production. He makes all decisions regarding strains of birds, dates, scheduling, feeding, handling, marketing, etc. The birds are his and he finances all the production costs.

Payment to the producer normally is handled one of two ways.

On one hand, the contractor may pay a producer a salary and as an incentive to do a good job, the producer may be offered a conversion bonus, livability bonus or a share of the profits or perhaps some of all three.

On the other hand, the contractor may guarantee the producer a set amount for each marketable bird. Out of this money the producer must pay his bills which include fuel, litter and/or labor cost. The producer assumes the responsibility for keeping these costs in line in order to maximize his potential return.

In both cases, the producer obviously surrenders the right to produce how, when and what he wants. The salaried producer exchanges this for a guaranteed income not influenced by traditional hazards of market fluc-

(Turn to page 46)

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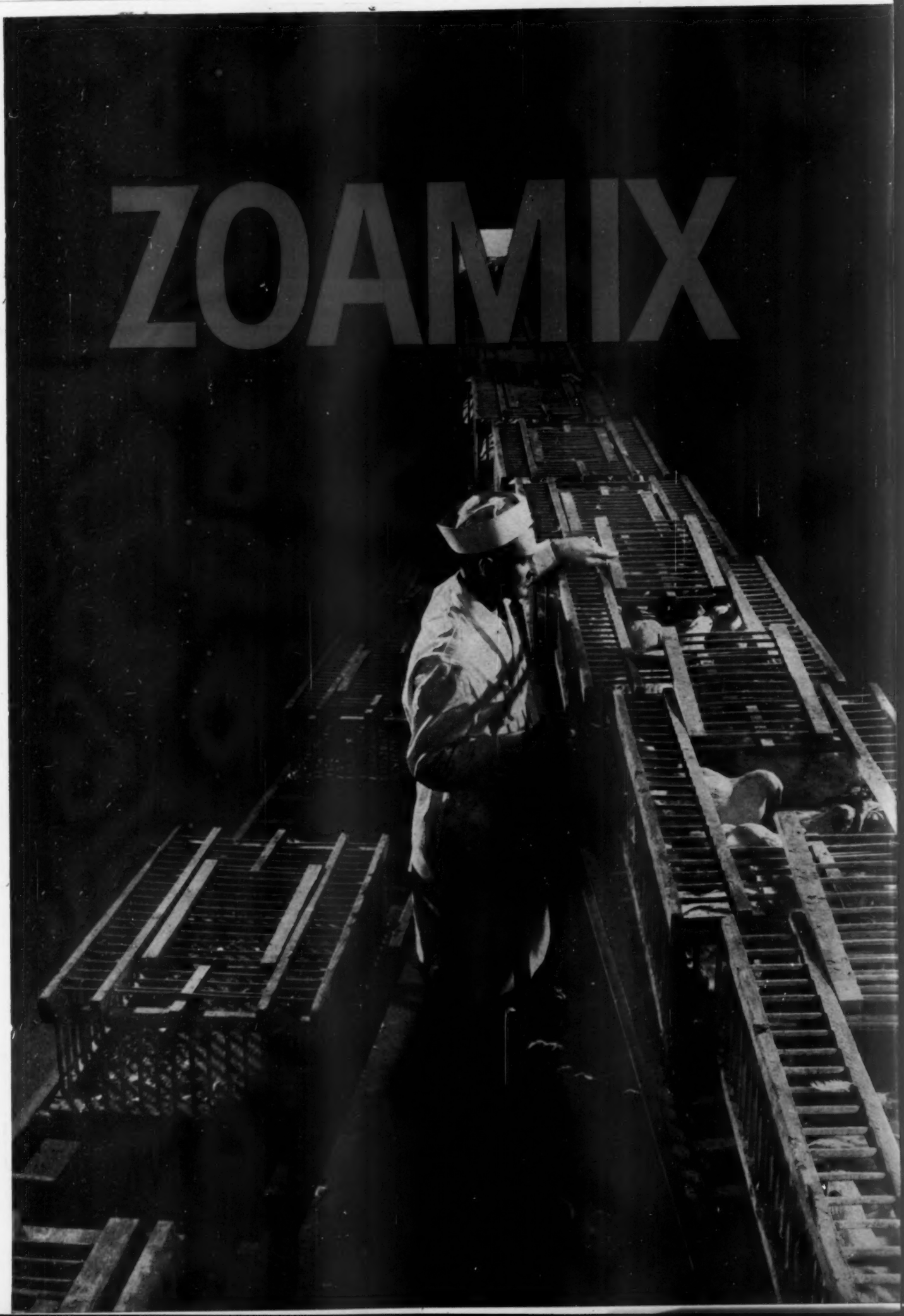
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Free educational film. "Chemicals: Vital to Our Food Supply," a 22-minute sound and color story of the contributions of chemicals to mankind, is now available for screening or group showings. Film has many references to the poultry industry. For bookings, contact your Dow Feed Industry sales representative.

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THE DOW CHEMICAL COMPANY DOW Midland, Michigan

tuations, disease outbreaks and the like.

In the guaranteed-price-per-bird contract, however, the producer does have some latitude in planning and minor decisions, but he must perform efficiently and according to contract if he is to realize a profit.

Risks and Rewards

Let me slip in a word of caution here. There are special risks as well as special rewards in contract feeding.

To be sure a contract favoring one party more than the other is unfair, but it is the responsibility of each of the parties to look out for his own interests.

For proof of the dangers we need look no further than the broiler industry. The fields there are littered with skeletons of both contractors and producers who misjudged their opportunities.

The situation is much like that in which the personnel manager of a large corporation was interviewing a job applicant.

"How did you like your former job?" he asked. "Did they treat you well?"

"Oh, it was terrific," said the applicant. "I was an assistant clerk on a 30 hour week. I made $1,000 per month, had six weeks paid vacation, a profit-sharing plan, sick leave, free medical care and hospitalization and a retirement program that would have put me on easy street the rest of my life."

"Incredible," said the personnel man. "Why in the world did you ever quit?"

"Quit," said the applicant, "what do you mean quit? The company went broke."

For example, if the offering contractor loses sight of costs in his enthusiasm to line up producers and grow big, he will find himself out of business in short order, his producers jingling their pocketfuls of money and looking for someone else's turkeys to raise. They'll be jingling, that is, assuming there's anything left after the bankruptcy proceedings are over.

But whether the producer assumes the cost burden or not, let him calculate carefully his obligations **before** he signs, lest he be the one left holding an empty money pouch.

One additional word of caution. Be certain of the integrity of those with whom you contract. This applies to both the contractor and the producer. If you are not entirely confident that they can and will fulfill their obligations, dismiss them from your consideration, regardless of how attractive their offer or how generous their terms.

But before you attempt to decide which, if any, contract discussed here might be beneficial to you, it is important also to understand the forces that led to their creation.

Agri-Business

Animal agriculture is in the midst of a fast-moving and far-reaching change throughout the country. Farming as we knew it in our youth is gone.

Agriculture was once a "way of life." Now it is "agri-business" with emphasis on peak production per man hour and per dollar invested—bigger volume units with full mechanization that can make money at low market prices because of rock-bottom production costs.

The agri-business farmer, instead of priding himself in the art of sharpening a sickle or splicing a rope, is pondering financial statements, soaking up facts about capital gains, figuring how to minimize his tax bite, and most important, figuring out how to lower production costs.

There are fewer farms today than there were in 1950, and there will be even fewer in the years to come. Census figures show a drop from five-and-one-third million in 1950 to four-and-two-thirds million in 1959.

But as total farm numbers have dropped, average farm size has increased 25%. In 1950 an average farm occupied 215 acres. Today, it encloses 270.

Capital investment per farm worker stands at an estimated $21,000. This is $3,000 more than is invested in the average industrial worker.

Farm assets have grown from $131 billion in 1950 to $208 billion today.

Farm productivity has soared. In turkeys the feed conversion ratio has improved from 6½ lb. of feed per pound of bird to 3½ lb. or less and the time needed to grow a 20-lb. tom cut from 34 weeks to 20. Even this will improve.

These and other similar advances in animal agriculture have created a revolution both in production and in marketing methods and channels.

It's a revolution fast enough to take your breath away.

It will be fast enough to take your turkey business away if you fail to meet it with foresight and intelligence.

New Consumption Patterns

Simultaneously with this agricultural revolution we have encountered new food consumption patterns. In these two facts lies the key to the development of contract production.

For example, in 1930 the average American ate 1½ lb. of turkey. By 1940, his consumption had increased to nearly 3 lb. In 1950, it was slightly over 4 lb. and 1960 estimates set the figure at 6 lb. This is a 300% increase in 30 years. The rise becomes even more significant when you consider that in the same 30 years, population has boomed from nearly 125 million to more than 181 million.

During these years, and particularly since the forties, personal income soared and the American housewife has had more money to spend on food. She has become more particular about turkey quality and appearance. She wants more meat and less bone. She doesn't like pin-feathers. She wants a variety of sizes from which to choose. And if she's like my wife, she hasn't been the least bit bashful about saying so. When she talked, the grocers—skillful merchants that they are—listened and took note.

Suppliers found themselves pressured to meet this new demand. But when they turned to their producers, several steps removed from the consumer, they found too few willing or able to tailor a product to this market.

Most preferred the traditional producing for market—any market. The chain of supply to fill demand was broken.

Now, at the same time processors found themselves with expensive equipment and high priced labor that alternated at considerable expense

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★ New Superior-Alloy Dies and Indented Rollers assure higher production—last longer.

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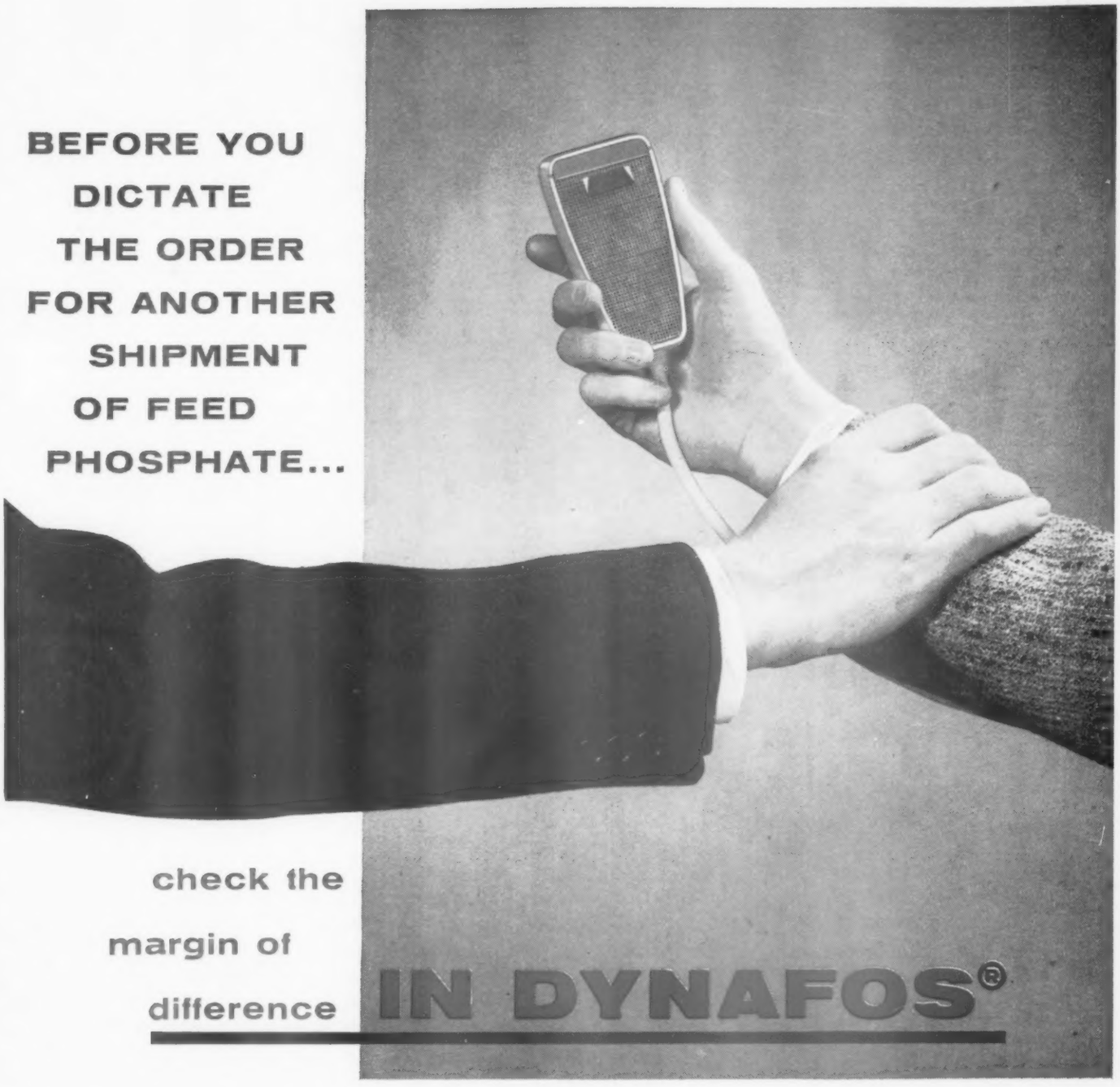

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between idleness when no birds were available and frantic activity as the yearly glut of turkeys hit market.

Problem piled on problem. Overtime became costly. Many turkeys went out of prime condition before they could be processed. Processors either turned the business away to other buyers or asked the producer to feed the birds for weeks, sometimes at a loss, until killing could be accomplished.

Birds varied widely in condition, weight and strain. Profit became thinner and planned marketing was impossible.

The processor's only alternative was to gain some control of supply. Their approach? Contract production. For example, a broiler processor I visited recently told me that he keeps 300,000 birds on feed at all times to produce the kind of bird he can't get in the market place and to help smooth out the peaks and valleys in production and supply.

Also, during the same period some feed manufacturers also took the plunge into contract production. Their participation, although aimed at the same end result, was brought about by several different circumstances.

As farmers put down more and more turkeys—production has more than quadrupled in the past 20 years—feed companies found themselves funneling increasing amounts of finance capital to their customers. But in practically every case their money was not protected against a loss. The feed men soon found to their sorrow and their stockholders' anger that write-offs on unpaid turkey accounts were fast getting out of hand.

The feedmen concluded that if their capital was to finance an enterprise, they had the right to demand that the producer follow programs at least calculated to guarantee a successful operation. But many producers, unwilling to accept the loss responsibility, disagreed.

The feed manufacturer's solution? Contract production.

Some feed men had other, equally sound business motives, however. Contract programs assured them a customer base for feed sales. In some instances it enabled the manufacturer to share the profits of a successful operation in addition to sharing the risk of a failure.

Other contract operations cropped up when producers with little or no personal equity—men who farm on a marginal scale—were handed a $40,000 or $60,000 loan, then 9 or 10 months later couldn't pay their bills on schedule.

When this happened some financers found themselves in business whether they liked it or not.

Contractors and financers can and have catapulted these marginal producers into sizeable agri-business operations without finding out whether or not they knew anything about business management—without projecting month-by-month capital requirements for them—without figuring whether or not they could sustain an unexpected loss and keep going. For obvious reasons this type of financing is on the decline.

Unfortunately, many contractors, processors and feed manufacturers in contract production failed to build their programs on a foundation of sound fiscal and management policy.

Contractors—regardless of who they might be—in their eagerness to get underway, have and will overbid the market. The result is usually financial disaster, both to themselves and their customers.

This situation is aptly described by the nursery rhyme about the little girl with the curl in the middle of her forehead. Like her, when contract production "is good, it is very, very good. And when it is bad, it's horrid."

Little wonder then that in some quarters there is fear, resentment and bitterness.

But on the other side of the ledger there are some remarkable successes in which both the contractor and producer have worked together for one another's mutual good and profit.

Future for Independents

Still unresolved, however, is the question of what's to become of the independent turkey producer who wants to maintain his status, free of any contract-imposed restrictions. Can he compete, make a profit, or even survive this production and marketing revolution?

Absolutely yes. Many today are competing successfully in areas heavily populated with contract operations. They will continue to prosper for years to come.

Their approach is remarkably sound. Almost without exception they are efficient, business-minded individuals. They have skill and experience in raising turkeys. They have sufficient capital to weather unexpected lows and to buy or invest when the time is right. They have a sizeable operation or are in the process of expanding.

But most important, they know their market. They have studied the trends and have talked with processors, grocers and buyers. They have learned first-hand what their market needs, when it is needed and the size and quality that brings the best price.

The market has welcomed them with open arms. For here at long last are producers who provide a scheduled quality and quantity of birds that are so desperately sought.

These producers have not sacrificed one ounce of their independence. Processors have not tied up one penny in production.

It is a system that works and works well. All it requires is a generous application of common sense.

But regardless of which direction tomorrow's turkeyman chooses to go, whether it be in some form of contract production or reliance on his own initiative and independence, his opportunity for financial success will be in direct proportion to the thought, consideration and study that producer invests in business planning, skillful management and planned marketing. To sum it up, the man, rather than a contract or lack of one, makes the difference.

Formula Changed

WEST SPRINGFIELD, MASS.—Eastern States Farmers Exchange has subtracted soy hulls from the formula for its Milkerpels dairy feed. This was in an "effort to stabilize attractive pricing" of the feed, a spokesman said. The ingredient was chosen to be dropped because of price increases on it and because of "less than desirable pelleting qualities."

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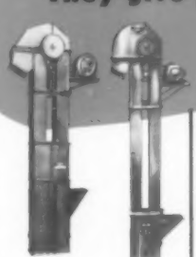

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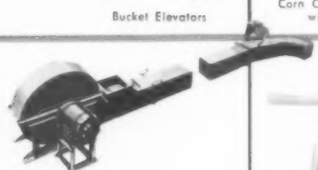

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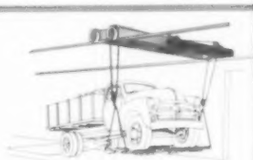
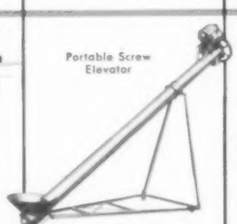


Electric Truck Hoist cuts handling costs



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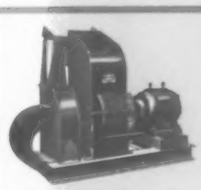

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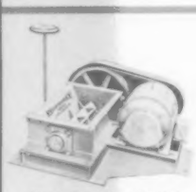

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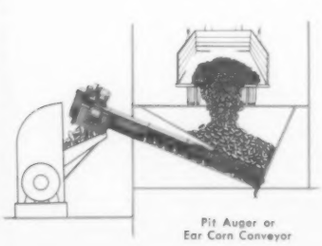

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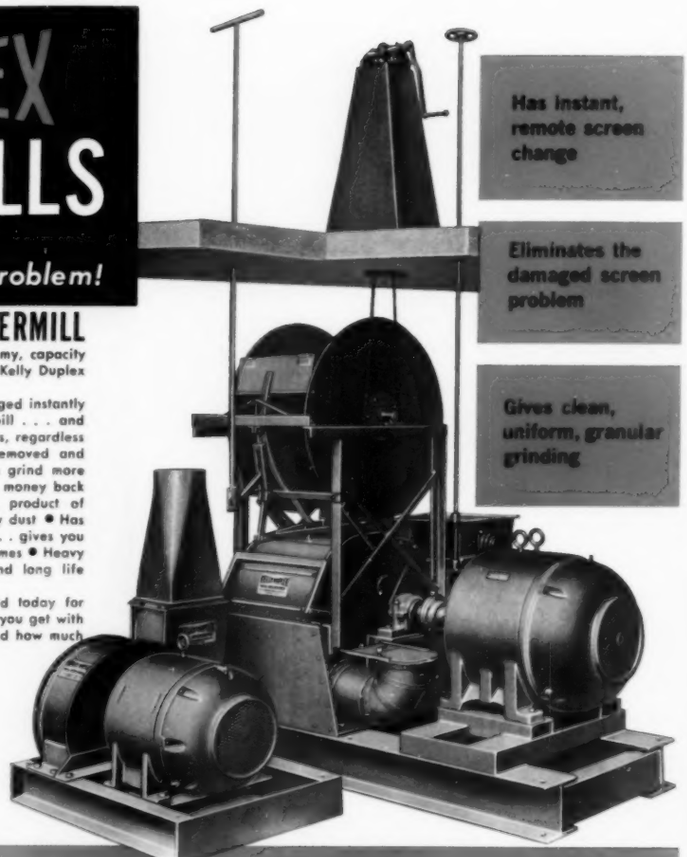

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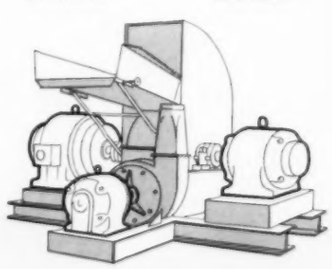

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Maine Workshop Covers Ventilation And Egg Handling

ORONO, MAINE—As part of the 50th annual Farm and Home Week a special workshop for poultry servicemen was featured here recently at the University of Maine.

Charles Kittridge and Mardis Warner, Maine extension agricultural engineers, discussed the fundamentals of ventilation and fans. Mr. Kittridge noted that poultry house ventilation involves moving air in, through and out of the building. "In order to adequately ventilate there must be a positive control of this air movement," he said. "This can best be accomplished by as near a continuous slot inlet around the building as possible and exhausting the air at one point with fans."

Mr. Warner pointed out the importance of buying fans that are designed and tested to move air against pressure. He suggested that poultrymen consider purchasing fans that can move the decided amount of air at a static pressure rating of ⅛ to ¼ in. In order to compensate for varying conditions inside and outside the poultry house, the amount of air movement must be variable, he said. This can be accomplished with multiple fans or multiple volume fans.

Egg Handling

Walter Carpenter, also of the agricultural engineering department, and Harry Whelden, poultry extension specialist, discussed egg handling. Mr. Whelden noted that there has been few changes made in egg handling due primarily to the method of marketing wholesale eggs. "Up to recent years eggs went off the farm graded and packed," he said. "Central grading by egg buyers offers an opportunity for reducing farm egg handling time. To take full advantage of this marketing, poultrymen should arrange nests in open aisles and collect eggs into filler flats on overhead carriers. Such egg handling methods are resulting in a reduction of one third to one half of the total egg handling time compared to grading and packing. Maine poultrymen using this method of egg handling are finding that it takes 25 to 30 minutes of total egg handling time per case."

Mr. Carpenter warned, "Unless poultrymen can eliminate actual egg handling by hand from the nest to the case there is little opportunity in saving time with belt collectors." He reported that equipment which will accomplish this is in the research stage. Until these machines are practically developed poultrymen should stick to handling eggs from nests to filler flats by hand.

Dr. Paul Harris, poultry science department, conducted a workshop on the physiology of poultry reproduction. Through the use of visuals and demonstrations he discussed the reproductive system as it relates to abnormalities in egg formation.

Prof. David O'Meara, animal pathology department, conducted a workshop in sanitation and decontamination. He emphasized that most poultry diseases spread from farm to farm. "The wearing and washing of rubber footwear on each call will do much to reduce spread of poultry disease," he said. "Disinfection is practically useless unless thorough cleaning of all foreign materials is accomplished."

He illustrated with bacterial smearings and a microscope that simply washing with plain water can reduce disease spread substantially.

This meeting was primarily of workshop nature involving 65 poultry servicemen.

RESEARCH CONTINUES ON CATTLE AND BUFFALO CROSS

MANYBERRIES, ALTA.—Cross beef cattle and bison and you have "cattalo." It seems that there are some problems with "cattalo," but research on the cross is continuing at the experimental farm here. Originally started at the buffalo park at Wainright, the experiments are now being continued at Manyberries. The work has been done here since 1950.

The purpose of the cross was to incorporate some of the rugged buffalo genes into domestic cattle for greater hardiness on the range, with a view to northern expansion. Steady progress is reported by Dr. H. F. Peters, farm superintendent, but infertility of the cattalo continues to be a problem. Meanwhile, hardier cattle strains may be needed for northern expansion, and the yak may have possibilities for future breeding.

Cattalo calves have outgained grade Herefords from birth to weaning, but gained less than Herefords in the feedlot. Buffalo gained less than either cattalo or Herefords in feedlot studies. In feed conversion, Herefords were most efficient and the bison or buffalo least efficient. While American buffalo do not compare favorably with Herefords on feedlot performance, there appears to be enough variation in the cattalo to permit improvement through selection for gaining ability, said Dr. Peters.

In recent years he has been able to get cattalo bulls for breeding that have had a high growth rate, and there are indications that the researchers may yet establish a herd with high performance.

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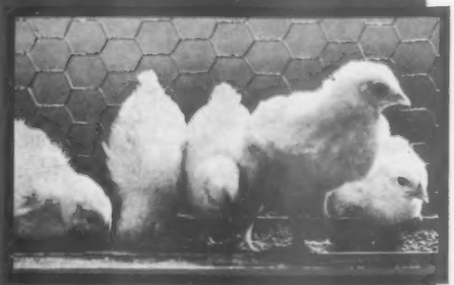

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GALLIMYCIN-10 is just such a growth stimulant.

Increase Your Profits 3 Ways!

GALLIMYCIN-10 is effective at low levels, it produces greater marketable weight, and it makes feeds go farther... three ways to bigger profits! Increased profits from GALLIMYCIN-10 have ranged from $29 to $46 per 1,000 birds... *extra* profits above feed and feed additive costs!

GALLIMYCIN-10 Has Been Proven Better

GALLIMYCIN-10 has been field tested and proven in every major broiler area in the country. In scientific studies at agricultural colleges and experiment stations*, growth improvement in flocks receiving GALLIMYCIN-10 averaged 5.8%. Yet, it takes *less than 1% improvement in growth to pay for GALLIMYCIN* at the recommended level of 5 grams per ton of feed. And... GALLIMYCIN-10 increased feed efficiency at the same time. In one trial, feed efficiency was 7.4% higher in the flock receiving GALLIMYCIN-10 than in the control flock.

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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Comparison of Phosphorus Availability Assay Techniques for Chicks

● C. B. Ammerman, C. R. Douglas, G. K. Davis and R. H. Harms, Florida Agricultural Experiment Station, Gainesville, Poultry Science, Vol. 40, No. 2, pp. 548-553, March, 1961.

ABSTRACT AND COMMENT

Over the years, the generally accepted methods of assaying for "availability" or inorganic phosphates as sources of phosphorus for young chicks have generally involved the use of at least four-week supplemental feeding periods and measuring the response by bone-ash values and possibly other related data. In 1960 Ammerman and associates (Illinois) reported on the use of an assay procedure using a 10 day feeding period which included four days of phosphorus depletion followed by six days of feeding the phosphorus supplemented diets and then measuring the uptake by conventional assays for bone ash.

Further work has now been completed by Ammerman and his coworkers (Florida) to help determine just where this new proposed technique fits into the scheme of phosphorus analysis techniques. The objectives of the present trial were: (1) determine the effect of initial weight on the response of body weight and bone ash to graded levels of phosphorus; (2) determine the repeatability of the per cent ash from the right and left tibia; (3) study the feasibility of using beak ash for measuring phosphorus availability, and (4) compare the results obtained with 10 day depletion-repletion assay with those obtained with a standard four week assay.

The basal diet used consisted of degerminated corn, 62.1%; cerelose, 2.57%; dehulled soybean meal, 13.33%; blood meal, 10.26%; 17% dehydrated alfalfa meal, 5.13%; lactose-dried whey, 3.08%; $CaCO_3$ 2.5%; iodized salt, 0.41%, and trace minerals, vitamins, antibiotic, 0.62%. This basal diet was shown to contain 0.24% P. All of the experimental diets contained 1.0% Ca, regardless of the level of P present. $CaCO_3$ was used to supply Ca not furnished by the P source.

Experiment 1—This trial was conducted to determine the results of the proposed short-term assay technique under the laboratory conditions in Florida as opposed to the previous results obtained by Ammerman et al., at Illinois. Furthermore, chicks were separated into: Light chicks, 49-53 gm.; medium chicks, 54-60 gm.; heavy chicks, 61-67 gm., and an unsorted group. Chicks from each of the four replicates were randomly assorted into six pens of 10 birds each. The six experimental treatments were: Sodium acid phosphate ($NaH_2PO_4 \cdot H_2O$) at levels of supplemental P of 0.1 and 0.2%; phosphate A at levels of 0.1 and 0.2% supplemental P; phosphate B at levels of 0.2 and 0.4% supplemental P, and chicks in the fourth replicate receiving the basal diet four additional days before receiving the various supplemental diets.

Those chicks on the six-day supplemental treatment were weighed and right tibiae removed at the end of the trial for bone ash determinations from right vs. left tibiae.

The results showed that no significant values for tibial bone ash were detected among the three groups receiving the low level of P. Also, the tibial values from the birds receiving diets containing 0.2% P from either phosphate A or sodium acid phosphate were not significantly different. On the other hand, both of these values were lower (at the 5% level of significance) than the average value obtained with 0.4% P from phosphate B, with phosphate B significantly lower than phosphate A or sodium acid phosphate at equivalent levels of supplemental P (0.2%). The response curve in this experiment was much less than that previously reported by Ammerman. Part of the explanation for this difference is seen in the differing phosphorus contents of the basal diets employed compared with the presently reported work—0.20 vs. 0.24%. The higher P content of the present diet was probably due to the higher content of P in the blood meal used in the diet. The average tibial bone ash values for the 0.1 and 0.2% supplemental P from sodium acid phosphate were 30.1 and 35.6%, respectively, compared to approximately 30.9 and 37.8% obtained in the experiments previously reported.

Also, no signs of rickets were reported in chicks depleted for eight

FEEDERS GET ONE STEER FREE FOR EVERY 29 THEY FEED!

Starting with only 29 steers and ending up with 30 is a real accomplishment any way you look at it. Yet, feeding tests now show that a profit bonus like this is not only possible . . . it's probable in most cases.

Extensive tests compared a normal diet with one fortified with 5% stabilized animal fat on a group of yearling steers and heifers of Hereford and Angus breed. At the end of the 141 day test, those receiving the fat fortified diet gained an average of 32 pounds more . . . a bonus equal to an extra steer for every 29 head.

And that was only the beginning! Those on the fat ration consumed far less feed per 100 pounds of gain . . . 61 pounds less mixed feed and 40 pounds less roughage. On this basis, feed savings averaged 10% per head. When carcasses were graded, only 50% of the normal diet group were rated choice or better while 72% of those receiving fat fortified rations were graded prime or choice.

All these findings mean more money for the feeder. If you're not already mixing fat enriched rations, talk to your local renderer soon. He can give you complete details on tests like this, as well as other research information which shows the way to more weight gain, lower cost per pound of gain, and increased growth rate for poultry, hogs, and cattle.

Best of all the use of animal fat helps improve the market for animal protein byproducts . . . results in better cattle prices when they're sold.

Ask your renderer to tell you about improving your feed results with stabilized animal fats, meat meal, meat and bone meal, poultry byproducts meal, and other products of today's scientific rendering industry.

nra national renderers association

30 N. LASALLE ST. FRanklin 2-3289 CHICAGO 2, ILL.

Worth Crowing About!!

FEEDSTUFFS WANT ADS

days, whereas in the previous work such chicks were produced in seven days. Furthermore, in the current work, the eight day depleted chicks had almost as high a tibia bone ash (31.3 vs. 31.9%) when repleted six days as did the four day depleted chicks when repleted for the same length of time. This means therefore that critical attention must be given to phosphorus content of the basal diet if the short time availability assay technique as proposed by Ammerman is used, since rather small differences in its content of P will drastically affect the final results. Although the results do show that the 10 day assay technique can be used to detect differences in availability of various phosphates for chicks, it may not be as sensitive as four week assays (more about this in the report of Experiment 2). Independent studies recently conducted by a commercial laboratory verify the findings in this regard to the use of the 10 day assay. Probably for now, it is best adapted to the "screening" of phosphates in relative ranks as far as availability is concerned into "highly," "average" or "poorly" available compounds. Then, the small differences in availability between members of each grouping would have to be carefully evaluated and determined by the more conventional four week assay techniques. This does not mean, however, that in the future the 10 day technique cannot be refined by careful attention to phosphorus content of the basal diet to be more able to pick out smaller differences.

The weight of the chicks following four days of phosphorus depletion did not appear to affect the tibial ash content of the chick at 10 days of age. The ash contents of the right and left tibiae at 10 days of age appeared to be comparable. Therefore, it appears that either may be used for ash determinations.

Experiment 2—This phase was to compare the depletion type assay as used in Experiment 1, with a standard four week assay for phosphorus availability. Sixty pens of 10 birds each were used, 10 experimental diets which included the basal were fed. Sodium acid phosphate and phosphate A were fed at levels of 0.05, 0.1 and 0.2% supplemental phosphate, and phosphate B was fed at levels of 0.1, 0.2 and 0.4% supplemental P. Three replicates per dietary treatment were subjected to four days of phosphorus depletion followed by six days of P repletion (Ammerman technique), while the remaining three replicates were fed the experimental diets for four weeks without being subjected to a period of P depletion (standard assay technique). At the completion of the respective feeding periods all birds were sacrificed and the right tibiae were removed from all birds. Also, the lower beaks were removed from one replicate in each 10 day and four week assay.

The results demonstrated that the tibial ash values for the 10 day test ranged from 25.4 to 36.6% compared to a range of 29.1 to 47.4% for the four week test. The standard error of the mean for the 10 day test was 0.454% and for the four week test it was 0.445%. As in Experiment 1, a highly significant interaction was found between level and source of phosphorus as a result of the high tibial ash values obtained with 0.4% supplemental P from phosphate B. Also, highly significant interactions in tibia ash were found between lengths of test and low vs. high level of supplemented P in the diet, length of test and basal vs. other diets, and length of test and phosphate B vs. other phosphate sources. No significant interaction in body weight was found between length of test and level or source of phosphorus.

Under the conditions of this test, the four week feeding test resulted in steeper tibia and beak ash response curves than did the 10 day depletion type of assay. But, as mentioned previously, part of this difference was due to the fact that the basal diet employed in the short time assay was higher in P than that used previously by Ammerman. In the previous work by Ammerman, response curves in the short-time assay were not far different from those typically noted by the longer four week assays.

It should be noted that with a greater range in bone ash values for the four week assay and a comparable standard error of the mean, treatment means which were not different in the 10 day test, became significant in the four week test. It is suggested that under the conditions used, that 10 days (four-day depletion, six-day repletion) was not sufficient time to attain maximum expression of the mineralized potential of the test diet. Because of this, it appears that availability results obtained with the 10 day assay were not the same as the results with the four-week assay. Nevertheless, as mentioned previously if care is taken to insure a low-P basal diet, the technique certainly lends itself as a screening procedure.

The ash content of the lower beak was not as critical a measure of P availability as was the ash content of the tibia.

More work needs to be conducted utilizing this new method since present methods of four-week phosphorus assays are quite a bit more time consuming and also much more expensive. With refinement, it is entirely possible that it can become a widely used and accepted method. Because of its relative ease of conduction compared with older methods, it even lends itself to routine laboratory procedures for the larger feed companies, etc.

January Shipments of Canadian Feeds Gain

OTTAWA, ONT.—Shipments in Canada in January this year of primary or concentrated feeds increased to 42,445 tons from 37,214 a year earlier, secondary or complete feeds to 224,013 tons from 195,585, and other animal feeds to 48,882 tons from 44,359.

Shipments of primary feeds in 1960 declined 11.6% to 441,513 tons from 499,312 in 1959 and other animal feeds 30.1% to 439,355 tons from 771,117, while shipments of secondary feeds rose 1.1% to 2,420,142 tons from 2,491,688.

OFFICE RELOCATION

MUNCY, PA.—The Kansas City sales and engineering office of Sprout, Waldron & Co., Inc., has been moved from 539 Westport Road to 5930 Troost Ave., Kansas City.

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

EVERYTHING FOR HANDLING AND TESTING GRAIN, FEED AND SEED

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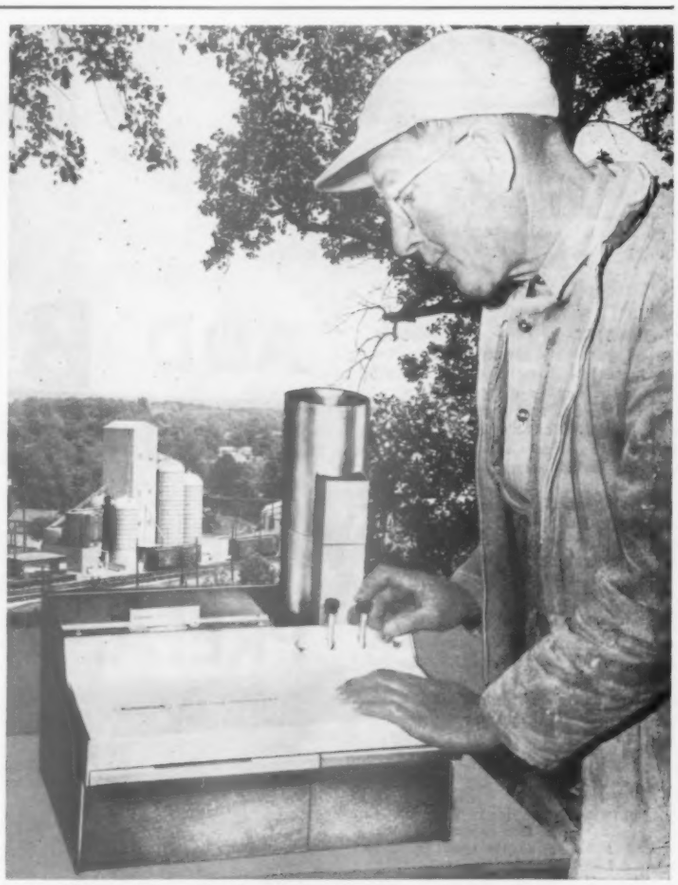
Bulk Bin

Screw Conveyor

Write for free catalog on grain testing and handling equipment

BURROWS EQUIPMENT CO. • Dept. C-5 • Evanston, Ill.


Roy Hyatt, Elevator Superintendent, Operating the Burrows Moisture Recorder In the Background: the Buchanan Co-op Elevator

"Saves Considerable Time In Taking Moisture Tests"

says R. F. Koenigshof, Mgr., Buchanan (Michigan) Co-ops, Inc.

"We wish to advise that we are more than well pleased with the Burrows Moisture Recorder which we purchased approximately six months ago," writes Mr. Koenigshof.

"We find that this tester saves our elevator men considerable time in taking moisture tests on various samples of grain. We also find that our customers are well pleased with the tester. They enjoy being able to read the moisture test on the tester when their sample of grain is being tested."

Why not join the hundreds of grain men who are finding out that R. F. Koenigshof is right? Order your Recorder now. Specify shipment when you need it. Ten-day free trial if requested.

BURROWS MOISTURE RECORDER

HOW **Lemanco**

CAN GIVE YOU BULK STORAGE QUICKLY

The revolution sweeping the country in the feeding industry is affecting feed mills all over the nation, both large and small. Many problems have arisen; among them the need for additional bulk storage, the need of saving labor, and the need to get more volume through the mill at lower cost per ton.

The square bins illustrated are some of the ways you can add extra storage in your plant. These bins are designed complete with rotary gates and supports for a weigh buggy operation. The minimum 60° slope built into most of these bins will handle practically all hard-to-flow materials. They are also available without legs, designed to set on your structural at any height. The No. 7682 or the No. 6682 can be mounted as bulk load-out bins either with a shed roof, or as an outside installation, since these hoppers can be made for either inside or outside use. Where one of the popular pneumatic units is being used, an air top is available. Outside weatherproof tops can also be supplied.

LEMANCO bins are prefabricated. The hoppers are constructed of 14-gauge steel, welded into a complete unit, the sides 16-gauge galvanized steel reinforced and gang punched in holding jigs to assure proper matching of all holes. This method of punching holes plus close control of tolerance in the fabrication of LEMANCO hoppers, legs and bracing, pays dividends in the ease of assembly by your own labor or favorite millwright.

LEMANCO storage bins are designed to enable you, the feed mixer or feed manufacturer, to install with small labor cost bins of proper pitch and suitable capacity. The use of common wall construction in grouping two or more hoppers together reduces labor and material costs.

You can save labor in operation by using LEMANCO bins with a LEMANCO weigh buggy or by filling a weigh hopper with an auger, thus getting ingredients into mixer in less time with less labor. You can, also, use these same type bins as finished feed storage, either mounted on structural as an overhead bulk load-out or, as many are doing, auger direct from the finished feed tank into the truck.

You can order these bins with full assurance that they are quality built and can be easily erected by you or your contractor. If in measuring your space you find the particular bin you need is too high, the sides can be adjusted on special order to fit your requirements. Where augers are attached, the bins can be lowered allowing you to add additional height for greater capacity.

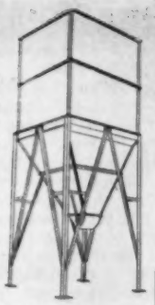
The LEMANCO system is so flexible in application that it is impossible to detail every possibility. If you have difficulty in fitting one of these bin arrangements in your mill space or storage area, a phone call to our engineering department may assist you.

Write or telephone today for price list. Shipment can be made promptly.

LEACH MANUFACTURING COMPANY

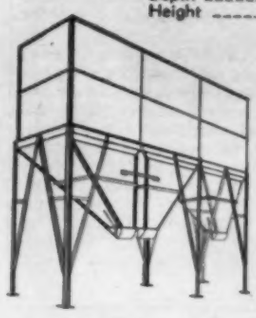
P.O. BOX 1010 PHONE Liberty 7-8472
GADSDEN, ALABAMA.

6682



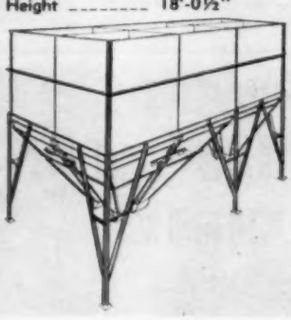
IB 6682-42
Capacity ..... 4.06 tons
Shipping wt. ..... 1547 lbs.
Width ..... 6'-4"
Depth ..... 6'-4"
Height ..... 14'-10½"

IB 6682-84
Capacity ..... 6.06 tons
Shipping wt. ..... 1863 lbs.
Width ..... 6'-4"
Depth ..... 6'-4"
Height ..... 18'-0½"



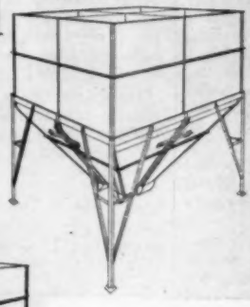
IB 181282-42
Capacity ..... 24.36 tons
Shipping wt. ..... 5672 lbs.
Width ..... 17'-8"
Depth ..... 12'-0"
Height ..... 14'-10½"

IB 181282-84
Capacity ..... 36.36 tons
Shipping wt. ..... 7019 lbs.
Width ..... 17'-8"
Depth ..... 12'-0"
Height ..... 18'-0½"



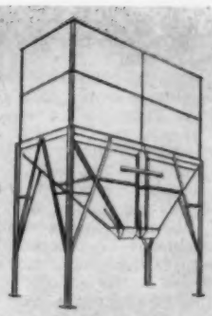
IB 18682-42
Capacity ..... 12.18 tons
Shipping wt. ..... 2461 lbs.
Width ..... 17'-8"
Depth ..... 6'-4"
Height ..... 14'-10½"

IB 18682-84
Capacity ..... 18.18 tons
Shipping wt. ..... 4263 lbs.
Width ..... 17'-8"
Depth ..... 6'-4"
Height ..... 18'-0½"



IB 12682-42
Capacity ..... 8.12 tons
Shipping wt. ..... 2564 lbs.
Width ..... 12'-0"
Depth ..... 6'-4"
Height ..... 14'-10½"

IB 12682-84
Capacity ..... 12.12 tons
Shipping wt. ..... 3123 lbs.
Width ..... 12'-0"
Depth ..... 6'-4"
Height ..... 18'-0½"



IB 121282-42
Capacity ..... 16.24 tons
Shipping wt. ..... 3840 lbs.
Width ..... 12'-0"
Depth ..... 12'-0"
Height ..... 14'-10½"

IB 121282-84
Capacity ..... 24.24 tons
Shipping wt. ..... 4790 lbs.
Width ..... 12'-0"
Depth ..... 12'-0"
Height ..... 18'-0½"

The No. 6682 hopper has a minimum pitch of 60° and is additionally versatile in that it has a side draw or a corner draw base. This makes possible a cluster of bins utilizing either draw to best suit your mill conditions.

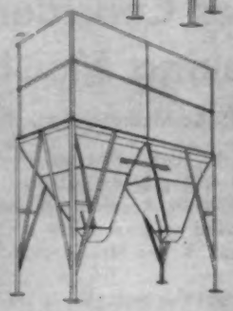
ADD BULK STORAGE TO YOUR FEED MILL WITH Lemanco QUALITY PREFABRICATED STEEL BINS

7682

IB 7682-48
Capacity ..... 4.92 tons
Shipping wt. ..... 1608 lbs.
Width ..... 7'-4"
Depth ..... 6'-4"
Height ..... 15'-4½"

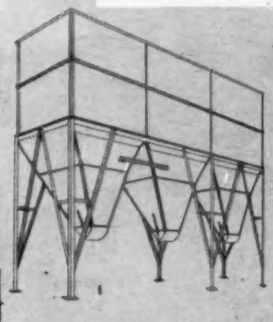
IB 7682-96
Capacity ..... 7.65 tons
Shipping wt. ..... 1878 lbs.
Width ..... 7'-4"
Depth ..... 6'-4"
Height ..... 19'-0½"

The No. 7682 hopper with its minimum 60° pitch and side draw is extremely popular due to its larger capacity. This hopper can be joined with the No. 6682 hopper under certain conditions.



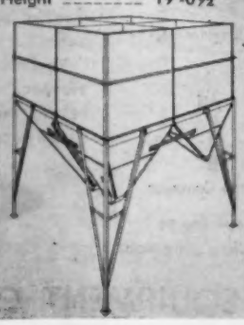
IB 14682-48
Capacity ..... 9.84 tons
Shipping wt. ..... 2961 lbs.
Width ..... 14'-0"
Depth ..... 6'-4"
Height ..... 15'-4½"

IB 14682-96
Capacity ..... 15.3 tons
Shipping wt. ..... 3605 lbs.
Width ..... 14'-0"
Depth ..... 6'-4"
Height ..... 19'-0½"



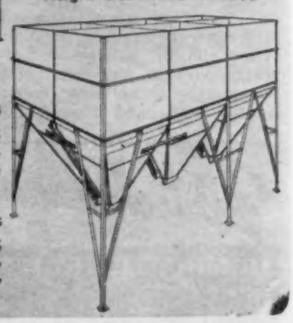
IB 21682-48
Capacity ..... 14.76 tons
Shipping wt. ..... 3028 lbs.
Width ..... 20'-8"
Depth ..... 6'-4"
Height ..... 15'-4½"

IB 21682-96
Capacity ..... 22.95 tons
Shipping wt. ..... 4096 lbs.
Width ..... 20'-8"
Depth ..... 6'-4"
Height ..... 19'-0½"



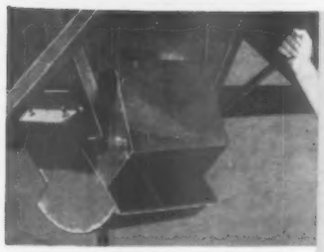
IB 141282-48
Capacity ..... 19.68 tons
Shipping wt. ..... 3871 lbs.
Width ..... 14'-0"
Depth ..... 12'-0"
Height ..... 15'-4½"

IB 141282-96
Capacity ..... 30.6 tons
Shipping wt. ..... 5026 lbs.
Width ..... 14'-0"
Depth ..... 12'-0"
Height ..... 19'-0½"



IB 211282-48
Capacity ..... 29.52 tons
Shipping wt. ..... 5724 lbs.
Width ..... 20'-8"
Depth ..... 12'-0"
Height ..... 15'-4½"

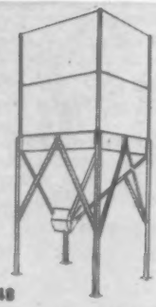
IB 211282-96
Capacity ..... 45.9 tons
Shipping wt. ..... 7390 lbs.
Width ..... 20'-8"
Depth ..... 12'-0"
Height ..... 19'-0½"



5554

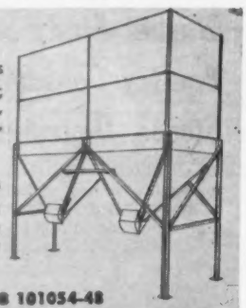
IB 5554-48
Capacity ..... 3⅜ tons
Shipping wt. ..... 1060 lbs.
Width ..... 5'-3"
Depth ..... 5'-3"
*Height ..... 12'-10"

IB 5554-96
Capacity ..... 5 tons
Shipping wt. ..... 1200 lbs.
Width ..... 5'-3"
Depth ..... 5'-3"
*Height ..... 16'-6"



IB 10554-48
Capacity ..... 6¾ tons
Shipping wt. ..... 1850 lbs.
Width ..... 10'-0"
Depth ..... 5'-3"
*Height ..... 12'-10"

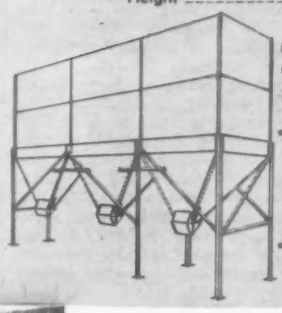
IB 10554-96
Capacity ..... 10 tons
Shipping wt. ..... 2000 lbs.
Width ..... 10'-0"
Depth ..... 5'-3"
*Height ..... 16'-6"



The rotary gate design is very popular when weigh buggies are used since it is easy to dribble feed with this gate. Rack and pinion gates are also available for any of these bins.

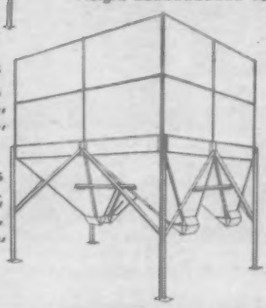
•

* The bin height shown on both pages includes 42-inch clearance under rotary gate.



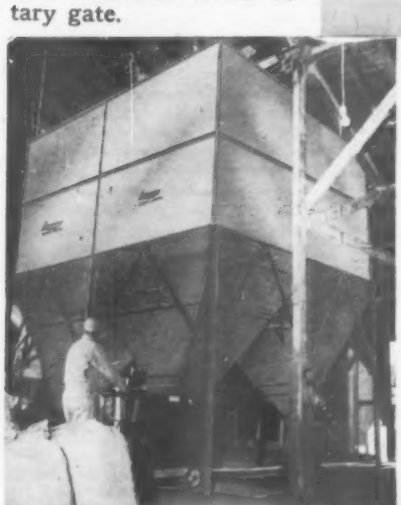
IB 15554-48
Capacity ..... 10 tons
Shipping wt. ..... 2300 lbs.
Width ..... 14'-9"
Depth ..... 5'-3"
*Height ..... 12'-10"

IB 15554-96
Capacity ..... 15 tons
Shipping wt. ..... 2800 lbs.
Width ..... 14'-9"
Depth ..... 5'-3"
*Height ..... 16'-6"



IB 101054-48
Capacity ..... 13½ tons
Shipping wt. ..... 2800 lbs.
Width ..... 10'-0"
Depth ..... 10'-0"
*Height ..... 12'-10"

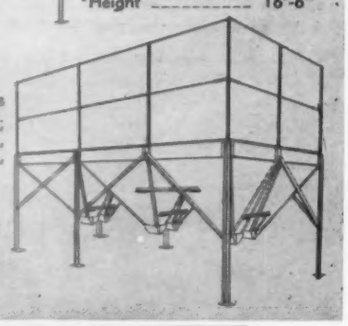
IB 101054-96
Capacity ..... 20 tons
Shipping wt. ..... 3200 lbs.
Width ..... 10'-0"
Depth ..... 10'-0"
*Height ..... 16'-6"



These LEMANCO bins, with their common wall construction, and either one or two tiers of sides, can fit into most any feed mill to give safe, economical bulk storage of feed and ingredients. Their open top permits ease of checking contents and filling to capacity.

The various LEMANCO bin sizes make it possible to fit additional bulk storage into your mill quickly, easily, and economically, using less floor space.

Mobile mill operators are finding additional use for their equipment by using LEMANCO storage bins with a portable auger.



IB 151054-48
Capacity ..... 20¼ tons
Shipping wt. ..... 3750 lbs.
Width ..... 14'-9"
Depth ..... 10'-0"
*Height ..... 12'-10"

IB 151054-96
Capacity ..... 30 tons
Shipping wt. ..... 4400 lbs.
Width ..... 14'-9"
Depth ..... 10'-0"
*Height ..... 16'-6"

Lemanco

Write or telephone today for prices and other information. Shipment can be made promptly.

LEACH MANUFACTURING COMPANY

P.O. BOX 1010 TELEPHONE Liberty 7-5472

GADSDEN, ALABAMA

These bins are especially designed for use with weigh buggies and are adaptable where several hoppers are needed in limited space.

The No. 5554 hopper has a minimum pitch of 45° in the back. The other three sides are 60° or more. As the gate on this bin is manually operated, bridging is a minor problem. Hoppers are all side draw.

The No. 5564 hopper is available as either a side or corner draw hopper. It has a minimum pitch of 60° on two sides and the other two are practically vertical. This hopper can be incorporated in a cluster with the No. 5554 where it is advantageous to do so, keeping in mind that the No. 5564 hopper is approximately 10" lower than the No. 5554. The 60° pitch and the corner draw practically insure flow of any type ingredient.

•

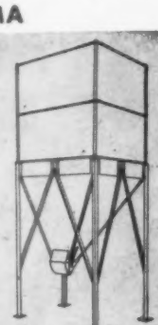
The LEMANCO weigh buggy comes in two sizes: Model 890, capacity 890 lbs. @ 40 lbs. per cubic foot and Model 1280, capacity 1280 lbs. @ 40 lbs. per cubic foot. The scale capacity on each is 1300 lbs. The low scale post permits the LEMANCO weigh buggy to be pushed under a cluster of bins to the second or third row of hoppers.

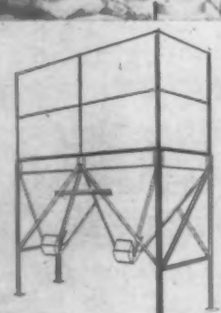
Write for prices.

5564

IB 5564-48
Capacity ..... 3⅜ tons
Shipping wt. ..... 1100 lbs.
Width ..... 5'-3"
Depth ..... 5'-3"
*Height ..... 13'-8"

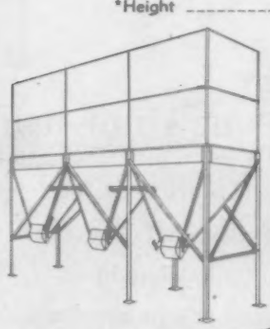
IB 5564-96
Capacity ..... 5 tons
Shipping wt. ..... 1250lbs.
Width ..... 5'-3"
Depth ..... 5'-3"
*Height ..... 17'-4"





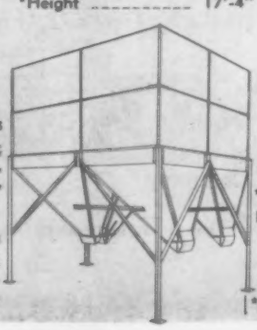
IB 10564-48
Capacity ..... 6¾ tons
Shipping wt. ..... 1950 lbs.
Width ..... 10'-0"
Depth ..... 5'-3"
*Height ..... 13'-8"

IB 10564-96
Capacity ..... 10 tons
Shipping wt. ..... 2100 lbs.
Width ..... 10'-0"
Depth ..... 5'-3"
*Height ..... 17'-4"



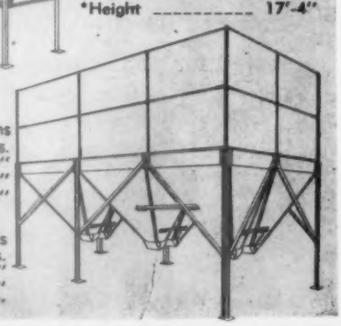
IB 15564-48
Capacity ..... 10 tons
Shipping wt. ..... 2300 lbs.
Width ..... 14'-9"
Depth ..... 5'-3"
*Height ..... 13'-8"

IB 15564-96
Capacity ..... 15 tons
Shipping wt. ..... 2800 lbs.
Width ..... 14'-9"
Depth ..... 5'-3"
*Height ..... 17'-4"



IB 101064-48
Capacity ..... 13½ tons
Shipping wt. ..... 3200 lbs.
Width ..... 10'-0"
Depth ..... 10'-0"
*Height ..... 13'-8"

IB 101064-96
Capacity ..... 20 tons
Shipping wt. ..... 3400 lbs.
Width ..... 10'-0"
Depth ..... 10'-0"
*Height ..... 17'-4"



IB 151064-48
Capacity ..... 20¼ tons
Shipping wt. ..... 3950 lbs.
Width ..... 14'-9"
Depth ..... 10'-0"
*Height ..... 13'-8"

IB 151064-96
Capacity ..... 30 tons
Shipping wt. ..... 4600 lbs.
Width ..... 14'-9"
Depth ..... 10'-0"
*Height ..... 17'-4"

Market Study Surveys Poultry Consumers, Stores, Distributors

COLLEGE PARK, MD.—A poultry marketing survey of consumers, retailers and distributors in the Baltimore and Washington areas produced these findings and conclusions:

- Broiler production areas may be able to improve sales by linking more of their sales and promotional programs to chain stores and feeding operations.
- Consumers seem to want a 4-lb. or heavier chicken for roasting and a 2½-3 lb. bird for broiling or frying.
- A "reasonable" buy in the minds of most consumers is chicken at 29-34¢ lb.
- The larger the household, the less chicken each member eats.
- As more money is spent for food, consumers are more price conscious in their buying of chicken.
- It appears that consumers continue to prefer fresh chicken over frozen.
- Principal materials used in packaging chicken were trays with a cellophane overwrap.
- In general, retail stores were anxious to have their own store identification on the poultry item rather than the producer's brand name.

Report from University

Dr. Harold D. Smith, University of Maryland agricultural economist, discussed the results of the survey conducted last summer in a report issued by the university.

The study included three levels: Wholesale - distributor, retail store and consumer, and it dealt with the distribution of dressed poultry in the two metropolitan areas, Dr. Smith explained. Contacts were made with 69 wholesale-distributors, 1,060 retail stores or their representatives, and 2,004 consumers in the two-city area. All contacts were made by personal interview with the exception of the consumer survey which was conducted by telephone interview.

The Consumer's Viewpoint

Principal source of chicken purchased by the housewife was the chain store, the survey showed. Location of the retail store in relation to a shopping center did not have an appreciable effect on the characteristics of consumer purchases. Of the total volume of chicken bought by housewives, 39% was whole, 25.5% was whole bird cut-up, and 23.6% was parts. The remaining volume was cut-up chicken or specialty items obtained at the meat counter.

Consumers indicated they wanted a 4 lb. or heavier weight chicken for roasting and would like a 2½ or 3 lb. bird for broiling or frying. Most consumers felt if they could buy chicken at a price ranging from 29 to 34¢ lb., they were getting a reasonable buy.

When chicken was on sale, 62% of the housewives said they bought the same amount as they normally would, 26.7% said that they bought twice as much and 3% more than twice as much. A total of 4.7% indicated they bought only when advertised as a week end special.

After chicken was purchased, approximately 60% of all housewives put the item in the freezer compartment of the refrigerator, another 25% put it in the regular refrigerator space, and others indicated they prepared it for serving the same day. More than 50% of all housewives served chicken once a week. There was evidence that consumers continued to prefer fresh chicken over frozen. As weekly expenditures for food increased, average per capita consumption of chicken declined.

Wholesale-Distributor Survey

At the wholesale-distributor level, it was found that approximately 2,200,000 lb. of poultry moved into the area each week and was dispersed to retail stores and institutions. Most of this volume was supplied from the North Carolina area of production. Baltimore obtained 48.6% and Washington 55.6% of total needs from North Carolina. The Delmarva area, including the Eastern Shore of Maryland, Delaware and Virginia, supplied 28% in Baltimore and 13% in Washington.

Approximately 65.8% of the volume in Baltimore and 98.3% in Washington had been federally inspected.

Of the volume handled in the two cities, Dr. Smith said, Baltimore received 91% fresh and 9% frozen and in Washington 89% was fresh and 11% frozen. Wholesale - distributors dispersed 55% of their volume to chain stores in Baltimore and 59% in Washington. Independent stores received 25 and 15.5% in Baltimore and Washington, respectively, and institutions were the principal outlets for the remaining volume.

"At this level in the market, handlers were well aware of limited facilities for doing business," Dr. Smith said. "Traffic congestion in the wholesale markets, lack of storage facilities, and crowded conditions were a few of the problems that distributors faced."

In the case of the retail store sur-

USDA HAS BULLETIN ON PELLETING COSTS

WASHINGTON — Pelleting costs and income in mixed feed mills with an annual capacity of 12,000 tons are described in a publication just issued by the U.S. Department of Agriculture.

USDA says this publication contains much information not previously available on small feed manufacturing operations. Initial investment, equipment required, depreciation, interest and labor costs are discussed for two model pelleting systems. Capacity of the basic system is 15 tons eight-hour day; capacity of the second model is twice that of the basic model.

Findings in this report are based on information from the mixed feed industry and from feed equipment manufacturers surveyed by researchers of USDA's Agricultural Marketing Service. USDA commented that this study is part of a broad program of research designed to expand market outlets and increase efficiency in marketing farm products.

A free copy of "Labor and Capital in Pelleting Formula Feeds," Marketing Report No. 463, may be obtained from the Office of Information, U.S. Department of Agriculture, Washington 25, D.C.

Someone's not using Ray Ewing . . .

Fed up with your feed? Start using Ray Ewing's performance-proved Turkey Program. It's custom-tailored and field-tested for your customer's particular requirements. Finishes birds early and economically. As with all Ray Ewing products, *"Quality Goes In Before The Name Goes On."* That's why

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vey, a 25% sample of independent and 100% of the chain stores were included. The total number of stores in the sample was 1,060. When the sample was expanded to represent the total volume handled by retailers, it was found the 1,600,000 pounds of poultry was distributed through more than 2,000 retail stores each week. Of this volume, an estimated 87% was handled by chain stores and 13% by independents and corner groceries.

In Baltimore, independent stores sold an average of 154 lb. of chicken per week while chain stores averaged 2,045 lb. per store. In Washington, the comparison was 205 lb. for independents and 1,473 lb. for chain stores. It was found that 31% of all stores in the two-city area sold less than 50 lb. of chicken per store each week and 33% sold more than 1,550 lb.

Methods of packaging and merchandising chicken varied greatly among independent and chain stores in the two-city area. The principal materials used in packaging were trays with a cellophane overwrap. In the case of independent stores, less than 50% were engaged in cutting and packaging at the store. The principal size of units bought for packaging averaged 55-65 lb. In general, retail stores were anxious to have their own store identification on the poultry item rather than the producer's brand name. A few of the larger firms indicated they anticipate a larger volume of chicken will be merchandised in frozen form in the future.

To Sell More Frozen Chicken

"It was generally concluded that improvements could be made in the quality of poultry sold in the Baltimore and Washington area," Dr. Smith reported. "Such improvements could be made through state or city legislation, through educational efforts in the area, and/or through better public relations between supply areas and the center of distribution."

There was evidence in the survey results that the market will move in the direction of handling more of the frozen product. "One possibility would be to display chicken in a three compartment display case where the housewife could buy either hard frozen, partially frozen or freshly thawed, depending on when she planned to use it," Dr. Smith said. "Along with this three compartment display, there could be made available promotional materials and recipes which would improve consumer acceptance.

"Also there was some interest in sales contracts for delivery of the product at specific locations on a regular basis. Production areas may be able to improve sales by gearing more of their sales and promotional programs to chain stores and feeding establishments in view of the fact that the number of retail stores and wholesale-distributors in the two-city area is declining."

Plan Broiler Group

DOUGLAS, GA.—Plans are under way in south Georgia for the formation of an association of broiler dealers in the area. A meeting was scheduled for the purpose of laying the groundwork, according to Lannie Thomas, Georgia Broilers of Blackshear.

Mr. Thomas pointed out that broiler production has expanded so rapidly in south Georgia that an organization is needed. There are approximately 20 dealers interested in the formation of the association.

FLORIDA POULTRY MEETING

ST. PETERSBURG, FLA.—The annual summer meeting of the executive committee of the Florida State Poultry Producers Assn. is to be held in St. Petersburg June 19-20. Directors are to meet Monday, June 19, for the purpose of conducting association business. The general meeting opens the next day, according to J. E. Harvey, president.

Reelect Perry Unruh to Head Oklahoma Group

OKLAHOMA CITY, OKLA.—Perry Unruh of Enid, Okla., was reelected president of the Oklahoma Grain & Feed Dealers Assn. at the group's 63rd annual convention held here.

Other officers reelected included Jim E. Smith, Union City, vice president, and Jim A. Feuquay, El Reno, secretary-treasurer.

Reelected as directors were Harold W. Harris, Alva; Samuel E. Muir, Enid; Ray Osborne, Chickasha, and E. O. Wheeler, Watonga. Lester Bond of Weatherford was elected to replace W. E. Cassidy on the board.

NEW LOUISIANA MILL

HAILE, LA.—Articles of incorporation with $50,000 authorized capitalization to operate a feed mill here have been filed by the Allen Brothers of Haile.

Gilbert Jackson COMPANY, INCORPORATED
BOARD OF TRADE BLDG., KANSAS CITY 5, MO.
Phone BA 1-0337
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All Feed Ingredients
A Nationwide Service from the Heart of America

Pittsburgh Plate Glass Co.
34% LINSEED MEAL
MEAL SALES—424 Flour Exchange Bldg., Minneapolis 15
Telephone FEderal 8-8469
PLANT AT RED WING, MINNESOTA

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New! MODEL D
FISCHBEIN®
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BAG CLOSER

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- Greater capacity, greater versatility than ever before!

NEW EASE OF OPERATION! The Fischbein Model D can be used efficiently by totally inexperienced operators.

EXTREMELY DEPENDABLE even under the most adverse operating conditions. Simple to maintain and service. Handles all types of textile and paper bags with amazing ease.

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We are interested in the new Fischbein Model D Bag Closer.
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Here's Why Economist Says Participation Will Set Corn Price

URBANA, ILL. — Prospects for market prices of 1961 crop corn seem to depend largely on the extent to which farmers participate in the new feed grain program, says L. H. Simerl, University of Illinois agricultural economist.

He looks at the situation this way:

"If a large share of farmers sign up, corn prices are likely to rise within about 10¢ of the support level ($1.20). If only a small share of farmers participate, prices may range around 80-90¢ bu.

First Supposition

"Suppose farmer participation is high, say 50% in the seven leading corn states. Nonparticipating farmers would produce only about 2,500 million bushels of corn. This would be about 1,000 million bushels less than the quantity that will be needed for feed, industry and export. This amount would have to come from Commodity Credit Corp. stocks and from farms that participate in the program.

"CCC will sell enough corn to make up part of the deficit. It will be authorized to sell about half as much corn as would have been produced on the diverted acres, say 140 million bushels. CCC could take over the export market and sell around 200 million bushels more. Finally, it will sell corn that is in poor condition.

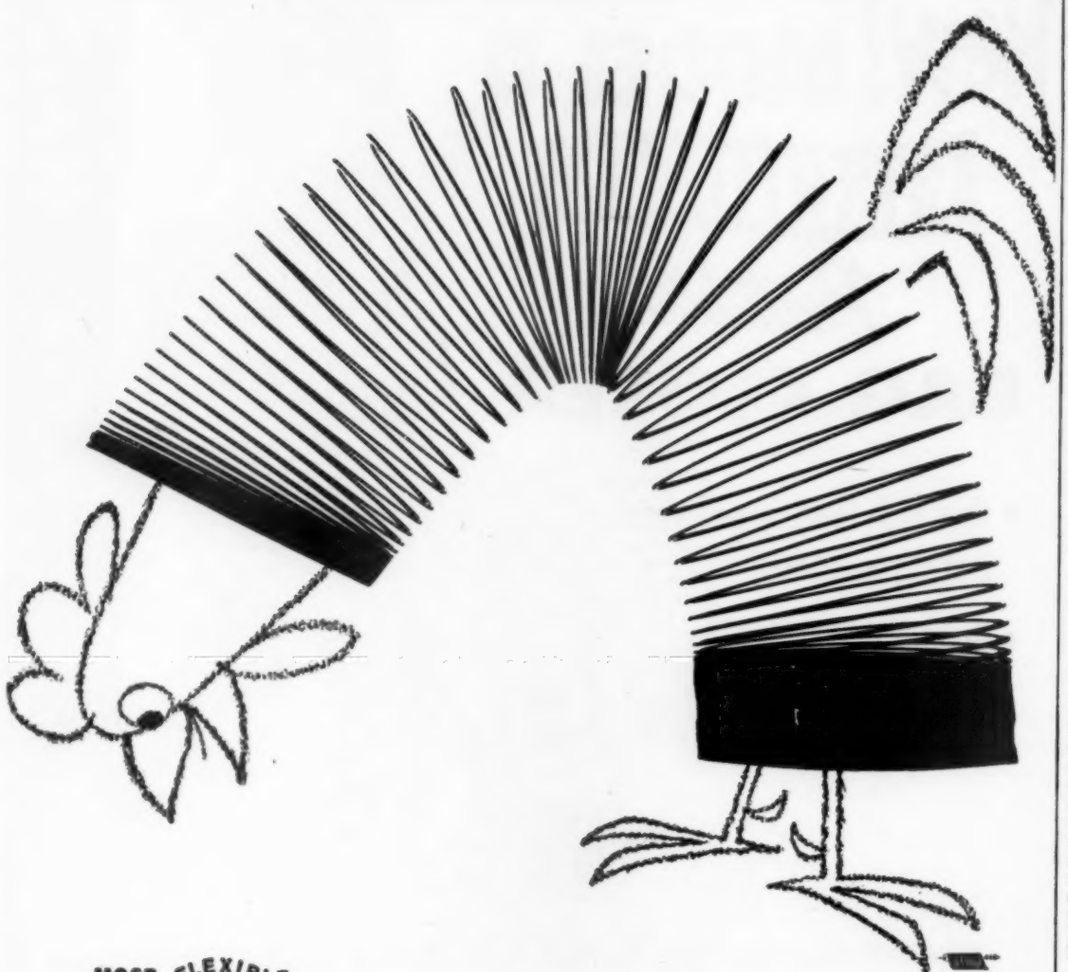
"The secretary of agriculture thus has considerable leeway in selling CCC corn. We may recall, however, that Congress recently turned down a request for permission to make general sales of corn at less than 105% of the support price. CCC officials will keep this in mind when making their sales plans. We believe that sales from CCC stocks would not be enough to meet market demands with prices as low as $1 bu. The additional corn needed would have to be drawn from farmers who could get price support loans.

"If half of the farmers in the seven leading corn states participate in the program, they will have over 1,100 million bushels eligible for price support. This is twice as much as has ever been put under price support in any previous year. Farmers will take out price support loans until the market price rises so close to the support level that there is little or no advantage in taking the price support. The market price will tend to stabilize at that level. This may be around 10¢ below the support level.

Second Supposition

"Now suppose that participation in the feed-grain program is low, say only 25% in the seven leading states. Production on nonparticipating farms would provide around 3,200 million bushels of corn. This would be only about 300 million bushels less than probable domestic and export needs. Sales from CCC stocks and from 'overrun' production on participating farms could easily make up the difference. Market prices might then remain well below the support level, perhaps below $1 bu."

NEW PRESIDENT—Sidney B. Weil, right, Sylvester Dairy Products, Inc., San Francisco, takes over the gavel, after being nominated and unanimously elected as president of the Pacific Dairy & Poultry Assn., from F. W. Vickrey, outgoing president of the western regional trade association and general manager of Nicholas Turkey Breeding Farms, Sonoma, Cal. Elected vice president was J. R. Garrett, sales manager of Norbest Turkey Growers Assn., Salt Lake City, Utah. The ceremony took place at the PDPA's 37th annual exposition and convention held recently at the Riviera Hotel in Las Vegas, Nev.

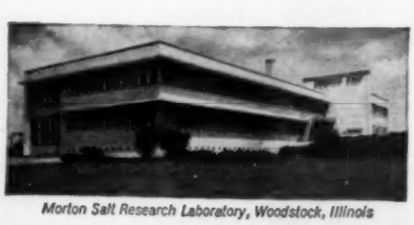


MOST FLEXIBLE TRACE MINERALIZED MIXING SALT ON THE MARKET...MORTON POULTRY MIXING SALT

Flexibility is the key word with Morton Trace Mineralized Poultry Mixing Salt. It is formulated to be flexible enough for economical use at levels from five pounds per ton of complete poultry feed, to ten pounds per ton. As you know, the three most essential trace elements for poultry are Manganese, Zinc and Iodine. Morton Poultry Mixing Salt supplies *only* these three trace elements. In other words, Morton has concentrated on maximum flexibility and economy.

Research has also given Morton Poultry Mixing Salt superior compounds that are all water insoluble, plus a new and improved anti-segregation agent. As a Morton customer, you can be sure of getting the *correct* trace minerals . . . you can be sure they will *remain* in your feed . . . and that they will be *distributed uniformly!*

Morton offers a complete line of Trace-Mineralized, Iodized and Special Mixing Salts, each backed by Morton's extensive research department. For more information, ask your Morton Representative for complete details, or write directly to Morton Salt Company.



Morton Salt Research Laboratory, Woodstock, Illinois

MORTON SALT COMPANY

NUTRITIONAL RESEARCH DEPARTMENT
110 N. Wacker Drive, Chicago 6, Illinois

JOINS HATCHERY FIRM

GAINESVILLE, GA.—John M. Head, formerly service manager for National Remedy Product Co., Springfield, Mo., has joined Chestnut Mountain Hatchery to head up the sales and service of the company's new Yeiser-Demler chick division. Announcement of the appointment was made by Lloyd Strickland, president.

Our suite will be open Sunday afternoon, May 7th, and throughout the convention. It will be closed during AFMA business sessions.

Your friends at Cyanamid cordially invite

you to visit our hospitality room, North Imperial Suite,

26th floor, Conrad Hilton Hotel, Chicago, Illinois,

during the AFMA Convention, and National Feed Show,

May 7, 8, 9 and 10, 1961.

Visit our Booths 145-146 at National Feed Show

AMERICAN CYANAMID COMPANY, AGRICULTURAL DIVISION, NEW YORK 20, N.Y.

CYANAMID

–from AFMA BULLETIN, January 18, 1961.
"A five-year look ahead at feed manufacturing and distribution"

THERE WILL BE AN INCREASE IN FEED "PROGRAMS" INCLUDING BOTH PRODUCTION SERVICES AND END-PRODUCT MARKETING SERVICES. THERE WILL BE EXCEPTIONS – COMPANIES AND DEALERS THAT SUCCEED BY PROVIDING ALMOST NO SERVICE, SELLING FOR CASH AND OFFERING THE LOWEST POSSIBLE PRICE. **BUT THE TREND WILL BE TOWARD A MORE COMPLETE MANAGEMENT PROGRAM AND AWAY FROM**

SELLING "JUST FEED."

YOU MOVE AHEAD OF THE TREND WITH THIS COORDINATED FEED-HEALTH PROGRAM

Far-sighted feed manufacturers and dealers have *anticipated* the trend away from selling "just feed" and toward more "service programs." They've turned the trend into an established custom.

This positive move by the feed industry to more and better service represents a broadening of function – a dedication to the problem of helping the livestock and poultry producers achieve a greater degree of production efficiency and economic success.

Through its service function, the feed industry provides producers not only with constantly improved and more advanced feeds, but also helps them to better organize their needs – plan ahead – and *coordinate* their programs.

The American Cyanamid Company has coincided its own plans and operations to dovetail into this development. Many of its departments serving agriculture with fertilizers, pesticides, defoliants, feed additives and veterinary products were brought together and coordinated into the Agricultural Division.

Program for the Sixties

Now, at the beginning of the Sixties, Cyanamid further coordinates its services to the feed industry, and the producers of America, by offering to the feed industry a completely Coordinated Feed-Health Program to further improve the efficiency and financial well-being of the nation's producers – to give strong, practical support to the industry, and to increase feed sales.

What is the Cyanamid Coordinated Feed-Health Program?

Briefly, the Cyanamid Coordinated Feed-Health Program is a systematic and organized attack on the disease problems that plague producers.

Carefully developed recommendations for the coordinated use of feeds containing AUREOMYCIN®, and scheduled use of preventive vaccines and medications, work for top health and profits from start to market . . . and through the entire productive lifetime of livestock or poultry. Farmers who utilize these programs automatically become better feed customers, using more feeds, more effectively.

Consult your Cyanamid representative

Your Cyanamid representative will be glad to give you detailed information, and supply you with promotional literature, on this Coordinated Feed-Health Program. Consult him or write direct to: American Cyanamid Company, Agricultural Division, N. Y. 20, N. Y. ®*AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.*

The label instructions on Cyanamid products, and on products containing Cyanamid ingredients, are the result of years of research and have been accepted by Federal and/or State Governments. Always read the labels and carefully follow directions for use.

CYANAMID

COORDINATED FEED-HEALTH PROGRAM

CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

Iowa Cattle Feeders' Day to Include Report On Vitamin A Tests

AMES, IOWA—Vitamin A needs in cattle feed supplements will be reported by Dr. Wise Burroughs, beef cattle specialist, at the 34th Cattle Feeders' "Hey" Day at Iowa State University, May 31.

Dr. Burroughs said he will display 14 lots of cattle which have been receiving different amounts of vitamin A in their rations. Results of the tests with these cattle, he said, are "expected to go a long way" in supplying answers to questions cattlemen have been raising. Animal husbandmen say that vitamin A needs have become one of the cattlemen's and feedmen's "most talked-about" subjects.

The cattle used in these and other experiments will be on display at the university's beef nutrition farm three miles northwest of Ames beginning at 9 a.m. Many of the cattle in this display, Dr. Burroughs said, made gains exceeding 4 lb. a day in the first half of the feeding period. Final figures on rates of gain for the entire period will be calculated just before the Cattle Feeders' Day.

Dr. Burroughs said that in reporting the vitamin A work, he also will include summaries of reports on vitamin A studies from other experimental stations. He will discuss the values of vitamin A in supplementing cattle feed.

He pointed out that the present vitamin A research is not expected to answer all the questions on the "why" of the recent appearances of vitamin A deficiency in cattle feeds in the Corn Belt. However, it should help settle practical questions of how much vitamin A is desirable in Corn-Belt cattle fattening rations at present and principles that will serve as guides in vitamin A supplementation.

Other Research Reports

Other research reports on the May 31 program will include a discussion by Dr. Walter Woods on the performance of cattle in the feed lot following pasture implantation five months earlier.

Ned Raun of Iowa State University will report new studies of the use of high-concentrate, low-fiber rations for fattening cattle.

Dr. S. A. Ewing will report on comparisons of protein blocks and liquid protein supplements for cattle in cornstalk fields. He will also report on tests with wintering rations for beef cows.

The afternoon program will be devoted to beef quality discussions by beef specialists and a meat industry representative.

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Any way you look at them, Columbian BIG BINS look sturdier and more efficient! This view is of the 7 Columbian BIG BINS, taken from the top of the Whitewater Flour Mills elevator.

Whitewater Flour Mills, at Whitewater, Kansas, took just 9 days in 1960 to erect seven Columbian Steel BIG BINS—157,500 bu. capacity—that added immeasurably to the efficiency of their large concrete elevator and mill. With simple spouting from the elevator, the Columbian BIG BINS enable the mill to grade grain as it is received, keep grains separated, turn the grain in the elevator or provide extra storage during peak times. Unloaded by auger conveyors, the BIG BINS facilitate the blending of grains as desired.

"Columbian bins can be erected in less time for less money because they fit up better" says Dana Clark of the Dana Clark Equipment Co., Inc., Wichita, who made the Whitewater installation. "As a result fewer hours of fitting and erection time are needed."

Look over your own elevator, mill and storage facilities. You'll be surprised how quickly and at what small cost, you can modernize and add efficiency with Columbian BIG BINS, Tall Tanks or Bolted Steel Elevator Tanks. Columbian engineers are glad to help with your planning and a recommended Columbian distributor-contractor in your own area can do the job fast and economically.

Write today for FREE Columbian BIG BIN, and Tall Tank folders and Columbian Bolted Steel Elevator book. They will show you why you can save time, labor and get more for your money every time with Columbian equipment.

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P. O. Box 4048-R Kansas City, Mo.

Member, American Dehydrators Association; Associate Member Grain and Feed Dealers National Association

STEEL, Master-Crafted by Columbian . . . First for Lasting Strength

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Long Island Duck Farmers Form New Marketing Cooperative

RIVERHEAD, N.Y.—Long Island duck farmers started ducklings to the nation's dinner tables recently through a newly formed cooperative organization that "hopes to stabilize prices."

The $29,500,000 duckling industry, which has been caught in a cost-price squeeze in recent years, has got together as the Long Island Duck Farmers Cooperative, Inc., an article in the New York Times reported.

The entire annual production of about 30 million pounds of Long Island ducklings—about 7,500,000 birds—is to be bought and resold by the new cooperative.

The cooperative's board of directors also is negotiating for centralized ownership or control of the industry's six processing plants and blast freeze storage facilities.

Stabilized Supply Sought

Through control of processing and storage, the organization plans a more even flow of ducklings to market, officials said. This would eliminate drastic price fluctuations of past years that have been due to peaks and valleys of supplies, according to a spokesman.

During 1960 the consumer price of ducklings, averaging 4 lb. each, ranged from 39¢ lb. during periods of glutted markets to 59¢ when supplies were low.

The spokesman said that stabilization of supplies, plus added economies effected through centralized control of processing and storage, would result in a more equitable year-round price to consumers and a fairer return to the farmers.

The cooperative also has started a nation-wide promotional campaign to introduce ducklings to housewives and outdoor grill devotees who have never tried them.

The island's 53 growers are participating in the organization. They produce 65% of all ducks grown in the U.S. Their specialized farms, growing scientifically bred white Pekin ducklings, are within a 20-mile radius of Riverhead.

George W. Lamb, former banker who has organized and managed cooperatives elsewhere, is general manager of the cooperative. He was called out of retirement from his home near Hamilton, N.Y., to take the position.

Buffalo Corn Exchange Elects 5 Directors

BUFFALO, N.Y.—Five new directors were elected by the Corn Exchange of Buffalo at its annual meeting April 24. They are John Norwig, mills division purchasing director, Cooperative G.L.F. Exchange, Inc., for one year; James E. O'Connell, general manager, Standard Milling Co.'s Standard Elevator & Grain Division, two years; and the following, all for three-year terms: Harold E. Bradt, president, Sunset Feed & Grain Co., Inc.; Kenneth V. Erickson, regional grain manager, International Milling Co., and William L. Larson, Buffalo office manager, Cargill, Inc.

Directors will elect officers in May.

Named to Egg Group

ATLANTA — Norman Sanders, Farmers Cooperative Exchange, Columbia, S.C., has been appointed a member of the military subsistence egg commission, it was announced at the egg commodities committee meeting of the Southeastern Poultry & Egg Assn. here.

The commission meets regularly to consider standards and other qualifications for buying eggs for the armed services. It is believed this is the first time a poultryman from the South has been appointed to the commission.

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. . . is the result of modern, low cost production methods used at Grain Processing's plant

This production makes possible a continuous, economical supply of SOLULAC . . . your best source of unidentified growth factors so vital in the feeds you produce. SOLULAC is a better nutrient because it's a fermentation product from corn. It's recommended by the same leading nutritionists who have cautioned you that "slimming up" on unidentified growth factors can only produce poor results.* Remember, feed sales follow feedlot performance! So, it will pay you to keep SOLULAC in your feed formulas. Don't be misled by cheaper *or* more expensive substitutes . . . insist on *free flowing* SOLULAC! Available in 50 and 100 lb. bags or bulk carloads.

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Goal Setting Helps Management Meet Challenging Economy

By Ray B. Bohnsack
Farm Bureau Services, Inc., Lansing, Mich.

When a person accepts the manager position of an elevator and farm supply business, with it goes a great many responsibilities. A major responsibility of management success is dependent upon making the right decisions. The business world of today does not allow much tolerance for error. I have observed that the managers with the highest "batting averages" for the right decisions do not rely on the "feel" of a situation or on a "hunch." Yes, it is true that a manager seldom has all the facts needed to solve a problem or to decide on the best alternative. It is management's job, however, to use all available resources to gain facts that might improve decision making.

I believe that if a manager is to make good decisions, there must be an objective. He must know where he is going. He needs to know what the end result is expected to be, and why. This requires planning. Effective planning then requires the setting of specific "bench marks" or goals. For the purpose of this discussion, we will focus our attention on some goals that the alert manager will plan to consider or accomplish.

There are two types of goals that require planning. They are short range and long range.

Short Range Planning

Five examples of "short range" planning are:

(1) Annual replacement of fixed assets (truck or mill equipment replacement).
(2) Amount of seasonal borrowing of capital for peak inventory and accounts receivable levels.
(3) Advertising and promotion.
(4) Employee pay adjustments.
(5) Annual budget of operations (a well planned budget will incorporate all of the above four items).

Long Range Planning

Five examples of "long range" planning are:

(1) Company growth relative to area potential.
(2) Personnel requirements.
(3) Financial requirements.
(4) Facility additions.
(5) New services.

Let us turn our attention to an example of short-range planning: This type of short-range planning can be incorporated into a long-range plan for company growth.

I want to share with you some eight years of experience in the budgeting of country elevator operations. It has proven very effective. It is quite probable that if you were to use this plan, the first year or two would not be everything you expected. This is normal because it requires some experience before your judgments become "seasoned."

Operating Budget

When you consider an operating budget for the first time, these thoughts will occur to you and those employees that may be involved.

(1) It isn't possible to predict sales volume, gross margins and expenses one year ahead.
(2) It will take too much time ("I might rather be promoting sales").
(3) It will be hard to explain if actual performance is below budget.
(4) My operations will not be flexible.

Positive Plans

Admittedly, these are all natural concerns when a change from the status quo is contemplated. Let us turn these negative notions into positive plans.

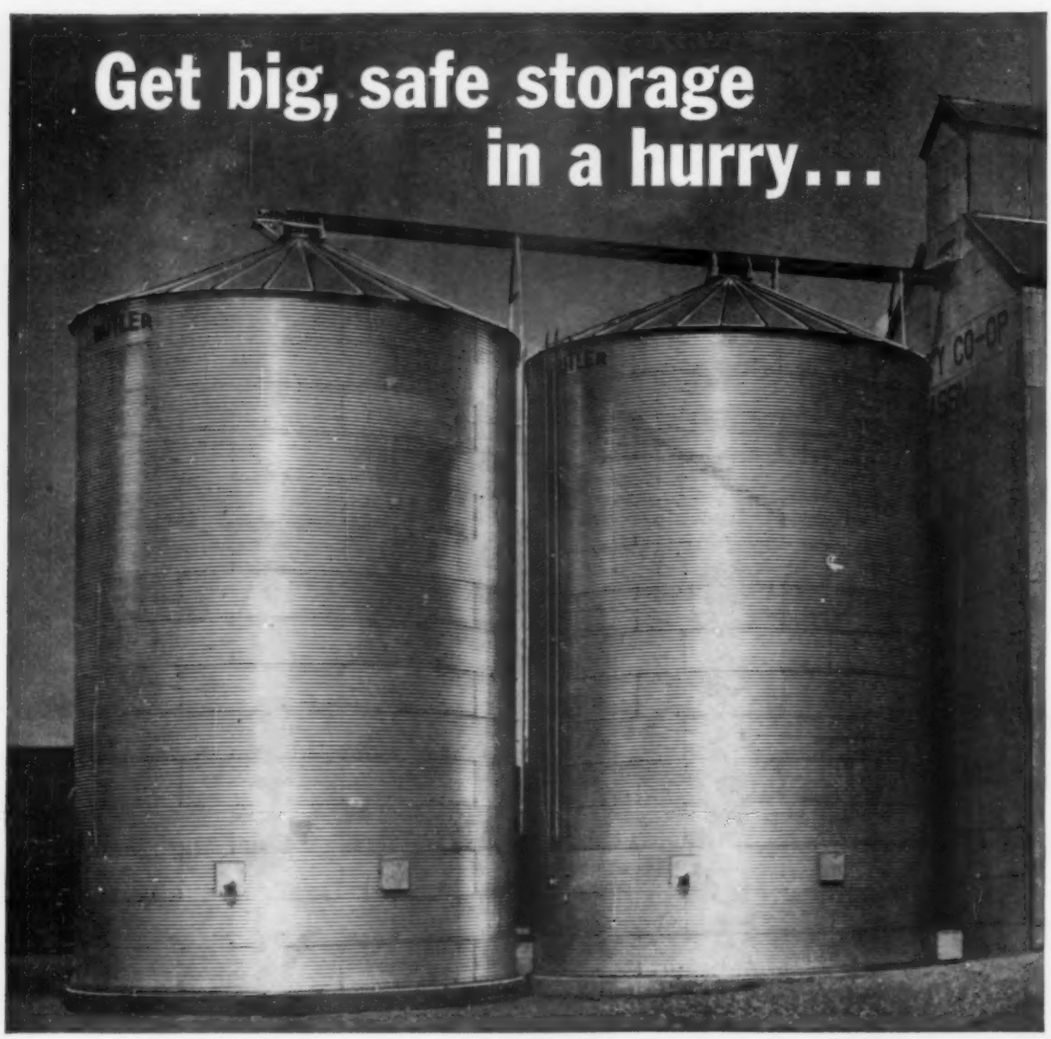
1. Forecasting sales volume is one of the most important areas of budgeting. Management has much available information on which to make judgments, such as these:

(a) History of previous year's operations.
(b) Knowledge of changes or trends in local agriculture.
(c) State department of agriculture statistics.
(d) Federal census data (1959 county census figures available).

This information will aid in determining your market potential. It will prove to be a most thought provoking and rewarding phase of the whole budget-making process.

2. Yes, it will require some time. However, it will prove to be the

EDITOR'S NOTE: The accompanying article was presented by Ray B. Bohnsack, manager, retail division, Farm Bureau Services, Inc., Lansing, Mich., at the Ohio Feed & Grain Dealers conference March 21, 1961, in Columbus, Ohio.



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PELLETED DAIRY RATION—Patti Jaye gives a demonstration of the free-flowing qualities of Wirthmore's new all-pellet dairy feed. New feed was principal topic of a series of dairy sales meetings held by Wirthmore Feeds, Waltham, Mass.

most valuable time you can set aside. You are really concentrating into a few days your plans for an entire year. Much of the gathering of facts and figures can be delegated.

3. The concern about actual performance falling short of budget is a real one if a manager reports to a board of directors. It then becomes necessary to explain or admit inability to meet the "target" set up in the budget. If the budget is exceeded by actual performance, the manager should receive commendation. However, this is not always a sure thing because the directors may feel the budget was conservative in relation to market potential. More important than either of these suggested outcomes is the fact that when actual performance is matched against a well-developed budget, a manager knows where to take corrective action. In other words, he is in a much better position to control his operation. If he reviews the budgeted plan with the board of directors at the start of the fiscal year, and gains their acceptance as to its soundness, the manager need not be embarrassed.

4. A budget should be flexible. Although you have, in effect, established boundaries for sales, income, and expenses, this action must be regarded as a plan that may need to be changed if some condition or situation changes. The budget establishes guide lines so that if actual operations produce a variance, we are in a better position to decide what corrective action should be taken.

Local Elevator Budgeting

We will now look at a method for budgeting a local elevator business operation. It was handmade to fit our system. I am not suggesting that this is the only way. It is just one method that seems to fit our needs. It is not complicated. The principles of this system can be modified and used by any organization.

During the last month of the fiscal year, each manager prepares his budgeted plans for the next year. The plan includes these broad areas:

(1) Volume of grain and farm supplies.
(2) Gross margins.
(3) Expenses.
(4) Net margin.
(5) Capital required for inventory and accounts.
(6) Facility replacements or expansion.

We have monthly operating statements so our plans are projected by the month. The system for planning that I will present can be used for any interval that will fit the accounting system of your business. It could be annually, quarterly, bi-monthly, or monthly. The shorter intervals are more desirable if you have actual operating records to compare with budgeted plans.

One of the first questions that must be answered is "where you set your 'sights' in relation to the goal or target that you should 'shoot' for."

Market Potential

Your market potential is the general target area. Your target then becomes your fair share of the market based on the ability of your business to serve that area.

Another consideration that provides a "target" is "return on investment." A question that immediately confronts us is, "What should that return be?" In the large corporation the board of directors probably determines this. In the smaller company, it is doubtful that this approach is generally used, or is applied.

It then becomes the manager's responsibility to evaluate his own business situation to determine what would represent a reasonable return. He may take into account previous history of operations, what the record is for similar businesses, or the attitude of his board of directors. If he owns the business, he will decide for himself.

History taken from the records of 44 Ohio elevators, as reported by Dr. Harold Ecker in 1957, shows a return of 0.11 to 15.7% on invested capital (owner's equity).

Let us define invested capital. It is the net worth of an organization and may include capital stock, capital surplus, retained earnings in the form of an allocated credit or deferred patronage refund. The board of directors or owner should think in terms of a return on this capital investment.

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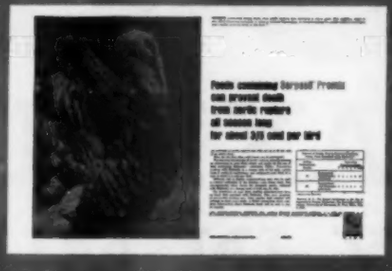

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The manager, as an operating person, thinks in terms of a net margin on sales volume. As manager he must convert the desired return on investment into a percentage of net margin to sales. When he has done this, he has established a goal for cash earnings. Also, to determine what this goal should be, he will consider in his plan sufficient cash earnings for any mortgage repayments or other debt retirement.

In Farm Bureau services our retail outlets break sales volume down into nine major categories. They are grain, seed, feed, fertilizer, fence and steel roofing, petroleum, coal, insecticides, and miscellaneous farm supplies. We recommend that unit volume measured in tons, bushels, etc., be considered first in relation to the market potential and past history. The tons of feed or fertilizer are then converted to dollar volume. The anticipated gross margin expected on each major product category is then applied to the volume to determine the gross margin.

It is highly advisable to consult with any employee who may have a specific responsibility for sales in your organization. It may be the feedman or outside salesman. These men will be delighted if they are consulted, and they will add an extra judgment to the sales volume budgeted. A more important result will be the employee's interest and desire to do everything he can to achieve, or exceed, the budget because he was consulted and had a chance to help set the goal.

Other revenues or operating income are budgeted as a separate item. Included is grinding and mixing, trucking, seed treating, drying revenue, storage, etc.

Operating Expenses

Now that total gross margin (income) has been determined, we turn to operating expenses. Because salary and labor expense account for about 55% of our total operating expenses, we budget these requirements in detail. This indicates:

(1) Each employee and his present rate of pay.

(2) When pay increases are to be made.

(3) Contingencies for overtime, part-time help and bonus, if such a plan exists.

Other expenses are then planned in relation to conditions expected. For example:

(1) Depreciation expense must allow for any additions or removals to fixed assets.

(2) Insurance coverage in relation to current building values and inventory level anticipated.

(3) Bank interest on seasonal or long-term borrowing.

(4) Taxes in keeping with changing assessments.

(5) Advertising and promotion is planned by type (newspaper, radio, meetings, etc.) so that a balance is realized between the various media that will be most effective for that area.

Capital for inventory and accounts is also budgeted in relation to sales volume and the credit policy in practice. This will indicate any need for seasonal borrowing. Facility replacement or expansion will call attention to need for long-term borrowing. These examples are presented to show that you can develop a budget system that will provide the information and controls needed.

Budgeting Summary

Here is a summary of the system for budgeting and how it will be of benefit to you and your organization:

(1) It helps you plan for:

(a) Sales and service in relation to market potential.

(b) Return on investment.

(c) Rising costs and how to meet them.

(2) Your performance can be measured against a plan.

(3) Corrective action can be taken much sooner.

(4) The budget is no more or less effective than the plans behind it.

(5) A budget must be flexible. Any change should maintain proper relation between "income" and expenses.

(6) It will help you grow as a manager. It may also aid in salary growth.

(7) Builds team work when you involve your employees in the planning.

Budgeting involves setting of goals for:

(a) Sales volume.
(b) Gross margins.
(c) Operating expenses.
(d) Net margins.
(e) Capital for inventory and accounts receivable.
(f) Capital for facility replacement or expansion.

If the annual goal is then broken down into monthly, bi-monthly, or quarterly goals, you have established a yardstick by which progress can be measured. To compare current operating results with those of the same period last year, is like comparing yesterday with the day before. This is not adequate for today or tomorrow. It is management's responsibility to take advantage of opportunities and to insure business growth in this dynamic economy. Goal setting will help management meet this challenge.

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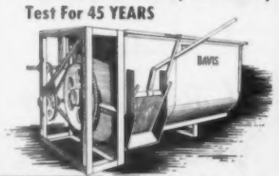

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Amino Acids In Poultry Rations

By Dr. H. M. Scott
University of Illinois

During the past decade considerable attention has been focused on the amino acid nutrition of the growing chick at the University of Illinois. The results can be found documented in the literature.

The concept that the amino acid pattern of intact proteins and crystalline amino acid mixtures, aside from deficiencies, is an important factor in nitrogen utilization has come to the front. Here we are concerned with the pattern of the amino acids in excess of the requirement. These amino acids, i.e., those in excess of the requirement, are wasted in so far as protein synthesis (true growth) is concerned unless they are balanced out with other amino acids. Furthermore, these excess amino acids may, under certain conditions, place a stress on the bird and finally, they may increase the requirement for certain other amino acids.

This concept has evolved as a result of studies designed to examine the amino acid adequacy of intact casein and a crystalline amino acid mixture simulating the amino acid pattern of casein.

If the recommendations of N.R.C. are accepted as a standard for the amino acid requirement of the chick, calculations show that the sum of the excess amino acids in a diet containing 20% protein from casein equals +4.48% (Table 1). Three amino acids (arginine, cystine + methionine and glycine) do not meet the standard.

TABLE 1. Amino Acids Contributed by 20% Protein From Casein in Relation to N.R.C. Standard

	N.R.C. req.	Casein 20% P	Excess or deficit
Arginine	1.2	0.84	—0.36
Histidine	0.3	0.60	+0.30
Lysine	1.0	1.64	+0.64
Tryptophan	0.2	0.30	+0.10
Tyrosine + phenylalanine	1.4	2.42	+1.02
Cystine + methionine	0.8	0.74	—0.06
Threonine	0.6	0.90	+0.30
Leucine	1.4	2.12	+0.72
Isoleucine	0.6	1.32	+0.72
Valine	0.8	1.48	+0.68
Glycine	1.0	0.42	—0.58
Total excess			+4.48

It has long been known that chicks fed a casein diet (20% protein) would respond to supplemental arginine up to a level of 1.6-1.7% total arginine, well in excess of N.R.C.'s 1.2%. Various investigators have studied this problem and several theories have been advanced to explain the phenomenon, but none has stood the test of research.

In examining the extent to which the amino acids are in excess (Table 1) it will be noted that histidine is present in amounts to provide a diet with 40% protein, i.e. 100% in excess, lysine 64%, isoleucine 120%, etc. Since the conventional purified diet containing 20% protein from casein is deficient in protein, it is not surprising, therefore, that the addition of arginine to the diet above 1.2% would enhance chick growth when sulfur amino acids and glycine are not limiting. Tissue synthesis can proceed when arginine is added to supplement the amino acids that are in excess. This appears to be the most logical explanation offered to date as to why chicks respond to this high level of arginine and is in keeping with the principle that the most limiting amino acid will determine the extent to which dietary nitrogen can be used for tissue synthesis.

Calculations indicate, and experiments confirm, that methionine is the most limiting amino acid in casein. The casein diet is not improved by supplemental methionine unless arginine and glycine are present in amounts greatly in excess of 1.2% and 1% (NRC) respectively. When these two amino acids are present in adequate amounts the growth promoting ability of the 20% casein diet is improved with each increment of methionine until the concentration of total sulfur amino acids reaches 1.0% of the diet. This amount is well in excess of the value (0.8%) indicated as the requirement by NRC. The situation as regards sulfur amino acids is therefore not unlike that previously shown to exist for arginine and glycine. These three amino acids are needed in the amounts indicated to balance out all other amino acids in casein that are present in excess of the requirement.

It follows therefore that it should be possible to maximize growth with

EDITOR'S NOTE: The accompanying article is from a talk presented by Dr. H. M. Scott, department of animal science, University of Illinois, at the Oregon Nutrition Conference.

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TABLE 2. Composition of Basal Diet Containing 15% Protein From Casein*

	%
Glucose	72.359
Casein, crude (84% C.P.)	17.650
Salts 59A	5.270
Corn oil	1.000
Choline Cl	0.200
L-histidine HCl	0.050
Glycine	2.620
L-arginine HCl	0.851
Vitamins	+
Alpha-toc. acetate—20 mg./kg.	+
Penicillin—11 mg./kg.	+
Total	100

*Arginine, 1.33%; glycine, 2.94%; cystine, .06%, methionine, .495% (total sulfur amino acids, .555%).

a diet containing a much lower level of protein than generally accepted as the requirement by balancing the excess amino acids of casein. This improved pattern of amino acids permits tissue synthesis to proceed with a minimum waste of nitrogen. If this concept is valid, it means that in addition to formulating a ration to meet the minimal requirement for each of the amino acids, some consideration should be given to balancing the excess amino acids so that they too can be utilized for protein synthesis (growth). Conceivably this could be done by the judicious choice of protein supplements commonly used to formulate practical rations. It would be interesting to feed the information into a computer to identify the mixture that would result in maximum utilization of amino acid nitrogen.

Balancing the Excess

Within the past few months we have demonstrated to our satisfaction at least, that balancing the excess amino acids makes it possible to materially reduce the total protein in the ration without impairing growth. Indeed it has been possible to reduce the protein one half (from 30% to 15%) in a purified diet of the casein-glucose type by balancing out the excess amino acids and still have growth proceed at a maximal rate.

The basal diet employed in this study is shown in Table 2. Casein contributes 15% crude protein to the diet. Arginine and glycine were added in amounts to balance out the excess amino acids and to rule out any possibility of histidine becoming limiting, a small amount of this amino acid was added. The diet was formulated to be deficient in sulfur amino acids intentionally because at this point we were attempting to prove that a high level of sulfur amino acids would be required to balance out the excess amino acids. The diet was fed at four levels of protein (15, 20, 25 and 30%). The amino acid pattern was held constant at all protein levels. Graded increments of methionine were added at each protein level. To conserve space, data are presented for only the 15% and 20% protein diets (Table 3). Supplemental methionine improved the growth promoting ability of both diets. Clearly, when the 15% diet was adequately supplemented with methionine chick growth was equal to that on the 20% diet also adequately supplemented with methionine (about 300 grams at 21 days). In both cases growth was maximal when the diets contained about 1% total sulfur amino acids. The requirement is quite different, however, when expressed as a percentage of the protein in harmony with our previous findings.

TABLE 3. The Response of Chicks to Graded Increments of Methionine at Two Levels of Dietary Protein

15% Protein		
—Sulfur amino acids—		
A	B	C
.555	3.70	255
.605	4.03	261
.655	4.37	270
.705	4.70	281
.755	5.03	284
.855	5.70	280
.955	6.37	299
1.055	7.03	293
1.155	7.70	301
20% Protein		
—Sulfur amino acids—		
A	B	C
.740	3.70	286
.806	4.03	295
.874	4.37	294
.940	4.70	300
1.006	5.03	312
1.140	5.70	293
1.274	6.37	306

A = % of diet; B = % of protein; C = Average chick weight (gm.) at 21 days.

Dannen Mills' Top Bull Brings $1,000

ST. JOSEPH, MO.—The top Brown Swiss bull at the recent dispersal sale of the Dannen Mills Research Farm here brought $1,000. The top price paid for a cow was $710, according to sale records.

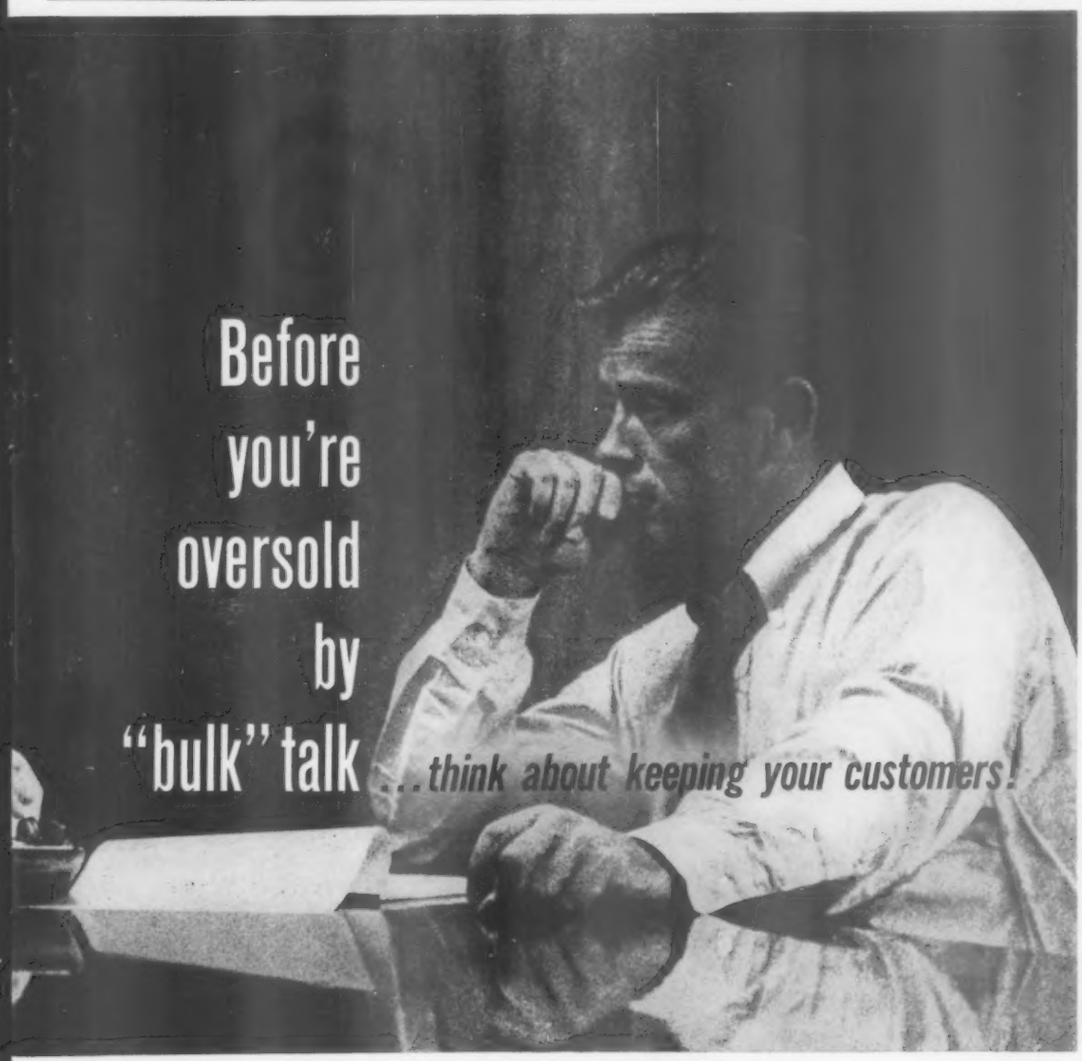
A total of 103 animals was sold during the Brown Swiss sale which drew around 300 persons from all parts of the country. Robert Waite, vice president for Dannen in charge of feed sales, said bred heifers brought exceptionally good prices.

The animals were sold individually. One purchaser was reported to have bought several cattle for export to Venezuela while others were bought by purchasers from Indiana, Iowa and Wisconsin as well as Missouri and Kansas.

Dwight L. Dannen, company president, said the dairy herd was sold because the farm is now inside the expanded city limits of St. Joseph and because of high costs of making improvements to the dairy barn. The company will continue its beef cattle, hog and poultry research at the farm, he added.

VAMPIRE BAT FEED

HOUSTON — What do you feed vampire bats? That was the problem confronting the Houston Zoo when the facility put 10 of the bats on exhibition. Curator John Werler, who obtained the creatures from Vera Cruz, Mexico, said they feed only on blood. Finally it was decided that the vampires would be fed blood from cattle slaughtered at Houston packing plants. To Mr. Werler's knowledge, the 10 vampires in Houston are the only such creatures on public display.



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BOSS OF THE YEAR—Dr. Aaron L. Andrews, center, president and general manager, Hess & Clark, was recently named "Boss of the Year" by Ashland, Ohio, Junior Chamber of Commerce. Dr. Andrews was honored for his outstanding record as an executive with Hess & Clark, division of Richardson-Merrell, Inc. Looking on are Bert Hutchison of Hess & Clark and John A. Almendinger, president of the Jaycees.

Weanling Pig Performance Compared

GAINESVILLE, FLA.—Recent research at the Florida Agricultural Experiment Station comparing the performance of pigs weaned at three and six weeks of age indicates that weaning pigs at three weeks is more profitable than at six weeks.

A total of 26 sows and their litters were involved in the study. Tests were made during summer, winter and spring seasons. The researchers said they recorded feed costs for pigs to eight weeks of age, feed costs for sows from farrowing to weaning and weight loss of sows.

The cost per pig was less for the three week group in the summer and winter but slightly more during the spring months, the Florida researchers said. The average of all groups showed that pigs weaned at six weeks cost the growers 26¢ more per pig than those weaned at three weeks. Feed costs averaged $3.82 for each pig weaned at three weeks, $4.08 for pigs weaned at six weeks.

Labor costs, which were not figured, would be higher for the sow with pigs than for only the pigs, the researchers commented. Other cost items which were not included remain fairly steady, regardless of weaning age, they added.

All pigs were kept with their dams in concrete confinement until weaned, the Florida researchers said. After two weeks of age the pigs were fed a fortified corn-soybean ration free choice. At weaning the pigs were placed on pasture where they had access to a shelter open only on the south side. During the winter and spring seasons straw bedding was provided.

The pigs weaned at six weeks made slightly higher daily gains during the eight week test period, but this advantage was not retained throughout the growing-finishing period, they said. The researchers concluded that the inexpensive type housing used in the study was satisfactory for year-round use; a fortified corn-soybean ration produced satisfactory results with pigs weaned as early as three weeks and the cost per pig was less for those pigs weaned at three weeks.

'60 Egg Production In Canada Drops 2%; Layer Numbers Down

OTTAWA—Net production of eggs in Canada (excluding Newfoundland) declined by 2% to 451,050,000 dozen in 1960 from 460,004,000 dozen in 1959, according to DBS figures. Average number of layers on farms declined to an estimated 28,002,000 from 29,302,000 in the preceding year, while the rate of lay advanced to 195 from 190 eggs per hen.

Egg exports totaled the equivalent of 10,911,000 dozen in the year, compared to 29,932,000 in the preceding year and imports amounted to 1,772,000 dozen versus 2,449,000. Domestic consumption was estimated at 426,800,000 dozen versus 418,925,000.

Poultry meat production decreased 6.0% to 472,864,000 lb. from 502,763,000 in 1959 (eviscerated weight). Production of fowl and chicken meat, accounting for the major part of total output, declined to 357,939,000 lb. from 365,198,000. Output of turkey meat was down to 107,644,000 lb. from 130,614,000 lb., goose meat to 3,145,000 lb. from 3,170,000 and duck meat was up to 4,136,000 lb. from 3,781,000.

Per capita consumption of poultry meat decreased in 1960 to 27.8 lb. from 30.4 in 1959. Per capita consumption of fowl and chicken meat declined to 20.9 lb. from 22.0 lb. and consumption of turkey meat to 6.4 lb. from the record 7.9 lb. in 1959. Per capita consumption of goose and duck meat at 0.2 and 0.3 lb., respectively, was unchanged from the preceding year.

"We solved our salt problem with Carey Ev'r-Flo Salt..."

Faultless Milling Company tells why Carey Ev'r-Flo is the only salt they use.

"CAREY Ev'r-Flo is tailor made for our automatic system." Paul Blodget, Vice President of the Faultless Milling Company, was speaking. We had asked why Faultless uses CAREY Ev'r-Flo Salt.

"In 1957 when we moved into our new blending tower in Springfield, Illinois, we became fully automated and completely bulk. We have forty-nine bulk bins operated from a completely automatic panel board. We rely on complete flowability from the bins, for if any ingredient stops flowing, our mixing process is shut down. Frankly, we cannot afford this.

"When we first started this new automated plant, we had one bin which gave us trouble. It was salt. We tried many varieties of mixing salt, but none of them did the job completely. Then we bought our first carload of CAREY Ev'r-Flo Salt.

"In any kind of weather, under all conditions, we have found CAREY Ev'r-Flo does a superb job. In fact, we haven't had a work stoppage due to a hang-up in the salt bin since we began using Ev'r-Flo. We believe CAREY Ev'r-Flo is made for our automatic system, and we're sold on its flowability."

Perhaps CAREY Ev'r-Flo Salt is made for your mixing operation, too. See your CAREY salesman, and ask him to demonstrate Ev'r-Flo flowability in your plant. And ask him, too, about new CAREY Flo-Min Salt — a trace mineralized salt designed for feed mixers, and available in three formulas: Poultry, Swine, and Livestock. Each balances recommended trace minerals in a free-flowing salt ideal for mixing of complete formula feeds.

Prices, CAREY Ev'r-Flo Salt (F.O.B. Hutchinson); bulk, $9.80 per ton; 100 lb. bags, 76c each or $15.20 per ton; 50 lb. bags, 50c each or $20.00 per ton. Call your nearest Carey Sales Office or your Carey representative for freight rates and delivered prices.

Visit CAREY at booth 39, AFMA Convention

THE CAREY SALT COMPANY

HUTCHINSON, KANSAS

Faultless Milling Company has been ordering CAREY Ev'r-Flo salt since 1957 — and won't accept any substitute!

Today's

108

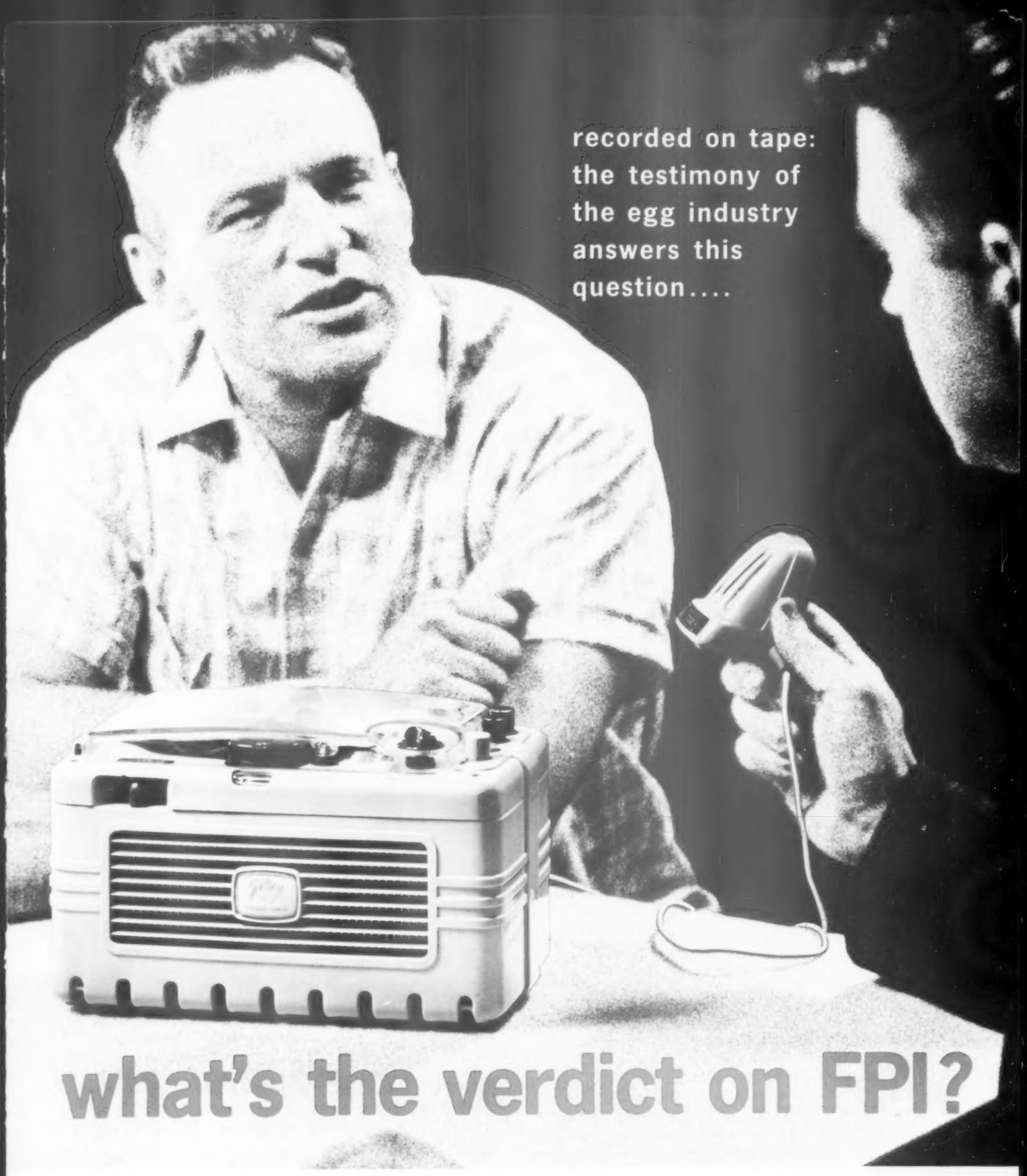
is making integration more profitable

Have you tried a flock?

Nichols

POULTRY FARM, INC.

GLASTONBURY, CONN.



what's the verdict on FPI?

One year ago, you were introduced to a completely new kind of feed selling program called FPI—a program designed to help *you* profit by helping *your customers* prosper.

First, FPI is a . . .

Full Performance Index for poultrymen . . . a feeding-management plan designed to help egg producers make more money. FPI sets profitable, practical full performance goals for laying flocks: 250 eggs per bird; 4.5 lbs. feed per dozen; 90% Grade A eggs; and 90% laying house livability. Then, FPI gives the formula for meeting these goals—good birds, good feed, good management PLUS the . . .

Full Potential Ingredient—nf-180. Added to your feeds, nf-180 frees layers from *constant disease drag*—the subclinical infections present in almost every flock which often rob feeds of egg-producing power. Thus, by giving you a way to help customers improve flock performance, the FPI program acts as a . . . **Feed Promotion Idea** to help you turn prospects into customers . . . a *service* program to help you turn your present customers into bigger, better customers . . . a sound merchandising program that helps you sell more feed.

Does FPI do the jobs it was designed to do? The answer—from feed men, influence people and egg producers—is inside.

first, let's look back

at the complete FPI program . . . . a plan designed to help you help poultrymen get full performance from their layers

The sales success of your laying feeds depends on one thing—performance. Do your customers really see an improvement when they turn to your feeding program? Do they recommend it to their flock-owner friends?

Producing "sit-up-and-take-notice" results is often difficult for a feed—even the very best. The reason is that good flock performance depends on so much more than good feed. Well-bred layers are essential. Good housing, equipment, environment control play important parts. Conscientious management and sanitation are a must. Disease has to be held under control. If a customer skimps on any one of these vital factors, he robs your ration of its full egg-producing power. His profits will suffer. And quite likely, he'll blame your feed.

Hess & Clark introduced the *Full Performance Index* program as your answer to this problem. FPI emphasizes to poultrymen the importance of keeping all factors of production in balance. It points out that feed can't do the whole job alone . . . and, at the same time, stresses the important part that good feed does play. In other words, FPI was designed as a . . .

complete blueprint for full flock performance

Extension poultrymen say, "Set a goal! That's the most important management practice." Few businesses can get anywhere without a pretty definite set of ground rules.

So that's how FPI got its name . . . by establishing a set of goals, a *Full Performance Index* for poultrymen. Hess & Clark soundly based these goals on the opinions of breeders, college poultry specialists and successful egg producers . . . and on a check of Random Sample Tests, college demonstration flocks, good commercial flocks and USDA averages. Here are the practical, profitable full performance goals:

- 250 eggs per hen housed
- 90% Grade A or AA eggs
- 4.5 lbs. feed per dozen eggs
- 90% laying house livability

The next step for the *Full Performance Index* program: *help you help your customers* meet these goals. In addition to stressing the importance of supporting your feed with good birds, good housing and equipment, and good management, the FPI program makes available to your customers—through you—two important aids to full performance.

One is the most complete, most useful record-keeping chart available today. This *Flock Performance Inventory* chart enables your customers to keep a day-by-day progress check so they constantly know if they're on target toward FPI goals. Second is nf-180—the *Full Potential Ingredient.*

nf-180 frees layers from a major obstacle to full performance

That obstacle is *constant disease drag* . . . the steady, relentless, subclinical infections that often hold performance down *despite* the best birds, feed and management.

Constant disease drag is present in almost every flock. Usually it is not serious enough to cause visible, obvious sickness. But day after day . . . all season long . . . it saps vitality and strength, holds down production, reduces efficiency, causes "unexplained" death losses. Constant disease drag keeps your feed from performing as it should. Medicating your layer feeds with a low level of nf-180 overcomes this problem . . . often makes a *substantial* improvement in flock performance.

Many dealers make nf-180-medicated feeds available to prospects for use in test flocks. The marked improvement in production, efficiency and reduced death losses is a selling story customers just can't argue with. Dealers have found this an extremely successful way to get new customers started on their feeding program.

nf-180 works so well because of its wide bacterial spectrum. *nf-180 prevents and controls more poultry diseases than any other drug.* In addition to guarding against the effects of stress and disease drag, nf-180 protects against most major poultry diseases.

That's the FPI program . . . *Full Performance Index, Full Potential Ingredient*—today's most effective *Feed Promotion Idea.* We feel it is a 3-step program of major importance to the feed industry. When you finish reading this report . . . when you yourself put the nf-180-FPI plan to work . . . we believe you'll agree.

let's look back at its timely introduction . . .

You and fellow feed trade "decision makers" were introduced to the Full Performance Index program via a full-color sound-strip film . . . informational booklets and brochures . . . and a portfolio of Feed Promotion Ideas left by your Hess & Clark salesman. A new sound-strip film will bring you up-to-date on this year's extension of the FPI program. Your Hess & Clark salesman will be contacting you soon to arrange a showing.

let's look back at the immediate response from influence groups . . . from extension poultrymen . . . from farm editors

The men who influence the egg industry—extension poultrymen, college specialists, breeders, and farm paper editors—gave FPI a warm welcome. Here's a sampling of their response:

"About your FPI—Amen!" says a southern extension poultryman. "Very worthwhile . . . something we have been preaching for years," says an extension veterinarian from the east.

A southwestern extension specialist writes, "I have long maintained that only through specific programing can an individual or an industry determine their progress. Certainly you have provided a definite program."

"This is certainly a fine promotional program," the Dean of Agriculture of a southeastern university wrote. "Unless we do such things as outlined in the FPI program, we cannot remain, profitably, in the egg business."

"I was especially impressed with the emphasis on setting goals and working toward them in a realistic manner," says a far west university official. "Very interesting . . . have filed the material for reference," writes a midwestern state egg board member. "Stimulating . . . something all poultrymen should be shooting for . . . a challenge to all of us," write others.

Farm and poultry magazine reports were equally favorable. The FPI program was reported extensively in the feed trade publications. And such magazines as *Farm Journal, Poultry Tribune, Egg Producer, Everybody's Poultry Magazine, The Poultryman, Florida Poultryman, The Farmer, California Farmer,* and *Farmer's Digest* told their readers about the performance-boosting FPI program.

That was the beginning of FPI. Has it lived up to its management promise as a Full Performance Index for poultrymen? As a performance-boosting feeding idea? As a sound Feed Promotion Idea? You'll find the answers when you turn the page . . .

is FPI truly a sound

"FPI offers egg producers practical, attainable goals"

H. B. Wallace, General Manager of Hy-Line Poultry Farms, Des Moines, Iowa, recognizes the FPI program as a sound way for poultrymen to get the full performance bred into high-producing Hy-Line layers. He says:

"No matter how good a bird we are able to breed, we can be sure that there will be a wide range of performance among poultrymen raising our birds. The difference is due primarily to varying management and luck.

"Your FPI plan, offers egg producers practical, attainable goals. Poultrymen who are not reaching these goals should revise their management, check their flock's environment, and look closely at their feed and breeding source. Some of today's better flocks reach:

290-300 eggs per hen housed (12 months)
3.7 — 3.8 lbs. feed per dozen eggs
About 90% Grade A or AA eggs
94-97% laying house livability

Though such results as these are rare, they *are* being obtained by really good poultrymen. It is obvious that most poultrymen have a real opportunity to improve overall flock performance through the use of good management, strict disease control and top breeding."

"a big help to farmers and to the industry in general"

Dr. John C. Taylor has been Extension Specialist in Poultry Husbandry at Rutgers University since 1927. He is the author of a book on poultry management and has written many circulars and magazine articles on profitable poultry raising. He has long served the New Jersey poultry industry and has held the post of Secretary of the State Poultry Association and the Jersey Chick Association. In 1959, he received New Jersey poultrydom's highest honor, the Golden Egg Award. Dr. Taylor says this about the FPI goal-setting program:

"I am very much impressed with your Full Performance Index program. The educational features of the program make it outstanding and should prove to be a big help to the individual farmer, and, in the long run, to the industry in general.

"All of us in extension work have been emphasizing the four points covered in your program. Encouraging producers to keep accurate records on egg production, feed conversion, livability and percent of Grade A eggs is important. They must do this in order to know whether they are operating at a profit. The man in the coop is his own insurance policy against rising costs."

management guide?

"simplest way to cut through the confusion of cost figures"

Farm Journal Poultry Editor Ray Dankenbring was introduced to the Full Performance Index program at the American Poultry Congress in Memphis. He told his readers about FPI in a September, 1960 article entitled, "Can You Match This?"

"In spite of all the talk about 'big operators' and 50,000-bird farms," he said, "there's still a future in poultry for the family farm, if you can . . .

Get 250 eggs per hen housed for 12 months of lay,
Push 90% of the eggs into Grade A,
Produce them on 4.5 lbs. of feed per dozen, and
Keep 90% of your hens alive through the laying period.

"These are the money-making levels arrived at by Hess & Clark," he continued. "And we got the feeling that the goals are reasonable, after hearing three long-time poultry specialists — one from the West Coast, one from the Midwest, and one from the East Coast — swap 'shop talk' the other day at the American Poultry Congress in Memphis.

"All three men agreed that wherever you live, and whatever size flock you have, using the four goals is the simplest way to cut through the confusion of cost figures and keep you in the race."

"challenges the good producer to even greater achievement"

Emil Malinovsky, extension specialist with the Ohio State University Poultry Science Dept., reviewed the FPI program in the booklet, "A New Guide to Full Performance from Laying Flocks." We asked him how he felt about the FPI program as a guide for egg producers. Here's his answer:

"Your Full Performance Index is excellent. The sights of most of us in the poultry industry are too low and our goals too modest. Our good producers — those who take their poultry husbandry seriously — are already doing a real job on egg production, feed conversion, mortality and keeping down cost per dozen eggs. These men are willing to "run the race," as you say.

"I can foresee — in the not too distant future — the current FPI goals tumbling. These FPI goals do, however, serve to do two things. First, they serve to challenge the good producer to even greater achievement and second, they serve as a 'light-house' to the producer who has to set his sights in order to even say he 'also-ran.'

"The leaders, or innovators, if you please, set the pace for those who wish to stay in the race. Now it's up to us to teach the poultryman *how* these FPI goals can be reached."

"**nf-180 keeps down a host of stresses** and diseases," says 23,000-bird-owner Reginald Barton, Fayetteville, N.C. "I've used nf-180 for 2½ to 3 years and haven't had any disease problems. nf-180 keeps hens on feed . . . keeps them in production. I don't want to be without it."

"**Before nf-180, my production was up and down** all the time. Now it holds steady," reports Paul J. Peterson, who gets outstanding performance from his 1750 layers despite Sherburn, Minnesota's variable weather. "With nf-180 in the feed, I can hold production up without any other medication."

does nf-180 really improve

"**We've had such good luck with nf-180** that I wouldn't be without it," says 4,000-bird-owner Kurt Kolberg, Galien, Michigan, who recently averaged 284 eggs per bird in a 1,237-pullet house. "Our local papers reported that as an example of what can be done," he says. "I give nf-180 much of the credit."

"**I conducted a little test** between nf-180 and an antibiotic and it sure made nf-180 look good!" reports John Lutter, who raises 2,500 layers near New Freedom, Pa. "The pen on nf-180 averaged 272 eggs compared to 252 for the pen on the antibiotic . . . 3.2% mortality compared to 9.4%."

transcripts of these tape-recorded interviews (and others, too) are available to you on request. they'll give you an idea of the enthusiasm–not just satisfaction–that customers have for nf-180

A recent survey of farmers who tried nf-180 showed that 88.2% were well satisfied with the results. That's a remarkably high percentage of user-satisfaction for *any* product.

But if you talk with poultrymen and feed dealers, you'll see that customers are far *more* than satisfied with nf-180. They are downright *enthusiastic*. "I've never seen anything work like nf-180!" "I'm afraid to take nf-180 out of my feed!" "By golly, nf-180 really does work!" Those are typical comments drawn from tape-recorded interviews with men who use nf-180 in their layer feed.

Why such enthusiasm? Mainly because nf-180 usually shackles disease drag so completely . . . makes such a "count-up-the-difference" improvement in flock performance.

nf-180 is a completely different kind of drug—not a sulfa, not an antibiotic, not an arsenical. It is a man-made chemical . . . nontoxic, with no harmful side effects.

Unlike antibiotics, which simply hold germs in check, nf-180 actually *kills* germs. And, as a result, resistant germ varieties have little chance to develop.

"**Culling is a thing of the past here,**" says T. C. Gray, who raises 10,000 layers outside of Iva, S.C. "If a hen goes off feed, that nf-180 puts it back to laying, and that's a fact! nf-180 keeps birds laying instead of loafing. That's how I feel about nf-180. We've found it pays its way."

"**A tornado came through here** and took the roofs off 14 houses," says 120,000-bird-owner C. C. Hardy, League City, Texas. "The birds got wet. Feed got wet. It was the biggest stress possible. We came back with a higher level of nf-180 and the birds didn't slack off a bit."

flock performance?

"**Extra livability decided me** in favor of the nf-180 low-level program," says 15,000-bird-owner Donald Pardum of North Highlands, Calif. "nf-180 also gives dependable production and overall good results. It keeps your birds from going into a costly slump. nf-180 pays for itself."

"**nf-180 is well worth the money** it costs," says Ralph Manning of Spencer, Iowa, who uses nf-180 to get full performance from his 6,000 layers. "I've never had any disease. With good birds, good management and low-level nf-180 feeding, you don't get into those disease problems."

In addition, nf-180 has a "broad bacterial spectrum" . . . it attacks an extremely wide range of diseases. This is why a continuous low-level of nf-180 in your feed (25 grams furazolidone per ton of total ration) so effectively *protects against* stress . . . and frees birds from the many subclinical infections that combine to put a constant disease drag on layers.

This wide-range effectiveness also makes nf-180, at higher levels, invaluable for *treating* disease . . . for "tuning up" a slumping flock. You can see in the chart at right that nf-180 *controls more poultry diseases than any other drug.* That's why nf-180 is the first drug many flock servicemen turn to when stress and disease troubles strike . . . why nf-180 simplifies your purchasing and inventory by doing the job of several poultry drugs.

nf-180* . . . Controls more poultry diseases than any other drug

DRUG	Paracolon	Infectious Hepatitis	Coccidiosis in Chickens	Pullorum	Typhoid	Paratyphoid	C.R.D.	Blue Comb	Hexamitiasis	Synovitis	Ulcerative Enteritis	Blackhead	Stress Period
***nf-180** furazolidone Level (grams)	YES P-100 T-200	YES T-200	YES P-50 T-100	YES P-50 T-100	YES P-50 T-100	YES P-50 T-100-200	YES P-50 T-100-200	YES P-50 T-100-200	YES P-100 T-200	YES P-50 T-100-200	YES P-50 T-100-200	YES P-100 T-200	YES P-50 T-100-200
Chlortetracycline Level (grams)	NO	NO	NO	NO	NO	NO	YES P-50 T-100	YES P-50 T-100	YES P-50 T-100	YES P-100 T-200	NO	NO	YES P-50 T-100
Oxytetracycline Level (grams)	NO	NO	NO	NO	NO	NO	YES P-50 T-100	YES P-50 T-100	YES P-50 T-100	YES P-100 T-200	NO	NO	YES 50
Bacitracin Level (grams)	NO	NO	NO	NO	NO	NO	YES P-50 T-100	YES P-50 T-100	NO	NO	NO	NO	YES P-50 T-100
Penicillin and Streptomycin Level (grams)	NO	NO	NO	NO	NO	NO	YES 75 Strep 25 Pen	YES 75 Strep 25 Pen	YES 75 Strep 25 Pen	NO	NO	NO	NO
Penicillin Level (grams)	NO	NO	NO	NO	NO	NO	YES T-100	YES T-100	NO	NO	NO	NO	NO
Penicillin and Bacitracin 37½ B plus 12½ P Level (grams)	NO	NO	NO	NO	NO	NO	YES P-50	YES P-50	NO	NO	NO	NO	YES P-50 T-100

*Each lb. nf-180 Concentrate contains 50 grams furazolidone. Each lb. nf-180 Custom Mix Ten contains 10 grams furazolidone.

KEY: **P** — number grams for prevention of disease. **T** — number grams for treatment of disease.

does the FPI progr

"success stories of satisfied nf-180 customers help us sell new customers on FPI layer feeds"

Uncle Johnny's Mills, Houston, Texas, was one of the first feed manufacturing accounts to adopt the FPI program as a *Feed Promotion Idea.* They have a sizable operation in their area, with 200 dealers covering a 200-mile radius around Houston (about 25% of the state). This tape-recorded interview with Lou Loftiss, sales manager of the firm, gives a pretty solid answer to the question, "Does the FPI program sell layer feed?"

Q. Mr. Loftiss, what has happened to your layer feed sales since starting on the FPI program?

A. Well, before starting on the FPI program, about 25% of our commercial poultry accounts used nf-180 as an additive. They had it custom mixed in our regular layer ration. Now that we have FPI feeds, I expect 80% of our customers use nf-180-medicated feeds. A month ago, Uncle Johnny's Mills had their highest production month in 5 years. Our FPI feeds substantially contributed to that record month.

Q. Do you actually call your layer rations FPI feeds?

A. Yes, sir. Uncle Johnny's FPI feeds.

Q. How did you introduce the FPI program to your customers?

A. We displayed posters in our dealer stores. Also, all of our commercial poultry accounts—that is, customers with 1,000 birds or more—were contacted by our salesmen who explained the FPI program to them.

Q. When you first contact prospective customers, how do you recommend they use nf-180?

A. We recommend they use a "booster" feed with 100 grams of furazolidone for the first 14 days, and then go to our FPI feeds—our regular ration containing 25 grams of furazolidone.

Q. Has starting out with the 100-gram "booster" feed for 2 weeks been a good way to convince customers of the soundness of your regular FPI layer feeds?

A. Yes, sir. We had one prospective customer who finally agreed to feed half of his flock on our program. We put the birds on a feed containing the 100-gram level of furazolidone for 14 days and followed up with the 25-gram level. The birds did so much better that he put all of his birds on Uncle Johnny's FPI feeds.

Q. Do good results like that help in selling your FPI feeds to new customers?

A. Absolutely. What we sell to new customers is what our present customers tell us after they use FPI feeds. Actually, we're selling the success stories of our satisfied cutomers.

Q. With success stories like that, it gives you and your own salesmen more confidence in the FPI program, too, doesn't it?

A. The confidence that our salesmen have in a program is a direct result of the way that program goes over with customers. So the success poultrymen have had with FPI feeds has actually given our salesmen a lot more enthusiasm.

Q. Certainly the salesmen's enthusiasm is important in any program you're trying to promote and sell.

A. You have to have enthusiasm, backed up by realistic facts.

Q. Do you think you have that with the FPI program?

A. Yes, sir, we sure do.

am sell layer feed?

"FPI feeds are moving . . . customers are reordering"

The L. C. Bolson Company, Decorah, Iowa, sells Bolson feeds and Bolson chicks through 125 dealers in parts of Iowa, Minnesota and Wisconsin. Fifty percent of their tonnage is in poultry feeds.

"We first started with Hess & Clark medications by adding *bifuran* to our starter feeds 4 years ago," says Marlin Bolson, feed department manager. "We've had the best of results with *bifuran*. We've put it through severe tests and it has always held up. Then 3 years ago we added a 200-gram level of nf-180 to our poultry booster feed. It has done a good job, too."

"How did you get started on the FPI program, Mr. Bolson?"

"Well, we were having some demand for nf-180 in layer feeds and had been using nf-180 at our research farm. Then your salesman came along with FPI. We held a sales meeting and invited some dealers to see your 'Margin of Difference' film explaining FPI. This program looked worth trying.

"We started on the FPI program late in 1960 by adding nf-180 to our 37% Poultry Concentrate, 26% Grain Balancer, 20% Breeder-Egg Ration and 17% All Mash.

"Right away our dealers found several customers wanting nf-180 layer feeds. FPI feeds began to move. Customers who tried them continued to reorder. They're not knocking down the door yet to get FPI feeds, but volume is picking up. On something new, we like to let it prove itself . . . because a satisfied customer is the best salesman yet."

"Is Hess & Clark advertising helping you sell?"

"Yes, I think so very much! Your advertising is the main reason farmers start buying FPI feeds. I'd say 70 to 80% of our dealers display FPI posters and literature. This helps bring our nf-180-FPI feeds to farmers' attention. After that, like I said, farmers' satisfaction is the best advertising."

"I can recommend nf-180 to anyone in the chicken business"

George C. Black is a partner in the Black & Meek Milling Co., Summerville, Ga. He is one of a growing number of feed dealers who have found using nf-180-medicated feeds on demonstration flocks an excellent way to get new feed customers. To show you what we mean, here's part of a recent tape-recorded interview with George Black, in which he tells how he uses nf-180 to help build feed sales.

Q. Mr. Black, do you recommend nf-180 quite frequently?

A. Yes sir, I do. I can recommend nf-180 to anyone in the chicken business. nf-180 almost always gives birds a boost. During weather stresses and such, you can check the records of poultrymen and tell which ones are using nf-180 in their feed. It helps them hold production steady and keeps birds from slumping. And I believe I told you how I got a good new customer by showing up another feed with the help of nf-180.

Q. Could we get that on the tape?

A. Well, I had this real good prospect with several thousand layers. I had been trying to get his business for a long time, but he kept telling me he was satisfied with his present feed. Finally, I talked him into a test. He put one house with 1,300 birds on our feed containing nf-180 and compared results with another 1,300-bird house on his regular feed.

Q. How did it turn out?

A. Well, when the birds peaked, the house on our feed was producing 100 more eggs per day than the others. This really opened his eyes. After he saw what happened, he decided to put all his birds on our program. I'm convinced nf-180 helped us get this new customer. I sell a real quality feed, but this other feed was a good one, too. *Something* made the difference between those two houses. I believe it was nf-180.

dealers everywhere endorse nf-180 as a selling aid . . . as a help to farmers

Here are random comments from a recent farm magazine survey of feed dealers in 11 states:

"Anything that brings this product to the attention of farmers will be doing a service to agriculture."

"nf-180 is our trump card in selling layer feed."

"I have always been sold on nf-180. We are selling more this year."

"nf-180 is in the minds of people. They ask about it and want to try it and are pleased with the results."

"We have not handled a better product."

"nf-180 really does the job. We use a lot of it."

"We like nf-180 because it brings in customers, sales and profits."

"We have had several people read your ad and come in and order nf-180."

"Claims for nf-180 are true."

"nf-180 has proven its value to those who have used it. We recommend it with confidence."

"We have shown a big increase in sales of feeds containing nf-180. I'm sure the advertising has helped."

"FPI advertising is the most effective advertising we have seen for many years. It really has brought customers to the mill."

the powerful selling

Hess and Clark promotes nf-180-FPI laying feeds with a forceful schedule of radio and magazine advertising. It's a program so complete that feed dealers rate it one of the most effective selling plans they've ever had to bring customers and prospects into the store.

In every part of the country—in every state—feed dealers report new customers and higher feed sales as a direct result of the nf-180-FPI advertising.

Radio listeners coast-to-coast are sold to the tune of the familiar, foot-tapping nf-180 jingle. Readers of leading farm and poultry magazines can hardly pick up an issue without seeing nf-180-FPI ads . . . ads that sell in a believable, effective way—by reporting actual tape-recorded interviews with nf-180 users.

Hess & Clark makes ads informative and factual to tell readers the full story, to *sell* them, to bring *real prospects* to the dealer's store—not just folks with their curiosity aroused.

One man we interviewed said he *looks* for nf-180 interview ads every month. Another reported, "The ad gave me confidence the product would do what you said it would. Next time I bought feed, I thought, 'I'm going to see if nf-180 really does work.' It did, too."

The "sell-more-feed" results of nf-180-FPI advertising are demonstrated in the chart at right. It's a report on a mail survey of over 1100 feed dealers conducted by farm magazines in 11 states. The results are typical of what has been happening in *every* state.

55.7% of all dealers answering reported direct inquiries from nf-180-FPI ads. Of the dealers reporting the actual *number* of inquiries, 23.9% said they received from *11 to 50 inquiries*. The overall average was 8.9 inquiries per dealer. That's a lot of inquiries . . . a lot of prospects for future sales.

The vast majority of the dealers rated nf-180-FPI advertising "very good" and "effective." One dealer wrote, "It really has brought customers to the mill." Another says, "They come in the store with ad in hand."

To take full advantage of this national and regional advertising, it's important for dealers to tie-in locally. Lift the flap for a look at a really effective line-up of local selling aids.

MEET AN FPI EGG PRODUCER
Ralph Manning shoots for 255 salable eggs per hen housed with a feed conversion of 4.1 lbs. per dozen. Here he explains:
How to make mone
MEET AN FPI EGG PRODUCER
Donald Purdum's strictly audited records show he knows the way to Full Layer Performance...
HOW DO YOU COMPARE?
CHECK YOUR RESULTS HERE
HESS & CLARK

support behind FPI

an example of nf-180-FPI selling effectiveness—a farm magazine survey of nf-180 dealers in 11 states

	Have any farm people mentioned seeing these nf-180-FPI advertisements?		Have your sales of feeds containing nf-180 increased this year?		Have you developed any prospects for future layer feed sales?		Have you had any nf-180-FPI materials on display in your store?	
	YES	NO	YES	NO	YES	NO	YES	NO
Iowa	61.8%	38.2%	66.3%	23.6%	52.8%	12.4%	91.0%	9.0%
Illinois Indiana	57.0%	40.0%	63.0%	25.0%	58.0%	12.0%	90.0%	9.0%
Minnesota North Dakota South Dakota	59.4%	37.6%	64.3%	18.8%	51.5%	20.8%	80.2%	19.8%
Wisconsin	37.8%	58.9%	40.0%	42.2%	35.6%	22.2%	78.9%	18.9%
Missouri	66.7%	33.3%	70.7%	19.5%	74.4%	7.7%	88.1%	11.9%
Nebraska	56.7%	43.3%	63.4%	23.3%	60.0%	23.3%	60.0%	20.0%
Ohio	55.5%	44.5%	72.8%	18.4%	58.2%	17.3%	79.5%	20.5%
Kansas	45.5%	54.5%	50.0%	25.0%	40.0%	15.0%	78.3%	21.7%

Where percentages do not total 100%, some dealers did not know or didn't answer.

MEET AN FPI EGG PRODUCER
he keeps birds "laying instead of
MEET AN FPI EGG PRODUCER
his test showed the way t
Full Layer Performance
MEET AN FPI EGG PRODUCER
Blueprint for profit: performance goals... careful records... nf-180
HESS & CLARK

tools that help dealers

this robust line-up of local selling aids helps dealers tie-in solidly with FPI magazine and radio support . . . helps create interest in FPI feeds . . . helps build layer feed tonnage by selling new customers on the performance-boosting nf-180-FPI plan

most effective feed-selling tool ever for feed dealers!

This full-color, informative sound-slide film —"The Margin of Difference"—is an ideal way to tell the complete *Full Performance Index* story to your layer feed customers and prospects. Emphasizes the importance of setting egg production goals and keeping accurate daily records. Shows need for good birds, good feed, good housing and equipment, good management. Explains just what *constant disease drag* is . . . and how it often holds layers below their full bred-in, fed-in potential. Shows how your FPI laying feeds containing nf-180 can eliminate this problem. Gives case histories of men who have used nf-180 protective feeding for full layer performance. "The Margin of Difference" is approximately 12 minutes long. *It really sells!* It will help you hold the most "feed-sellin' " farmer meetings ever.

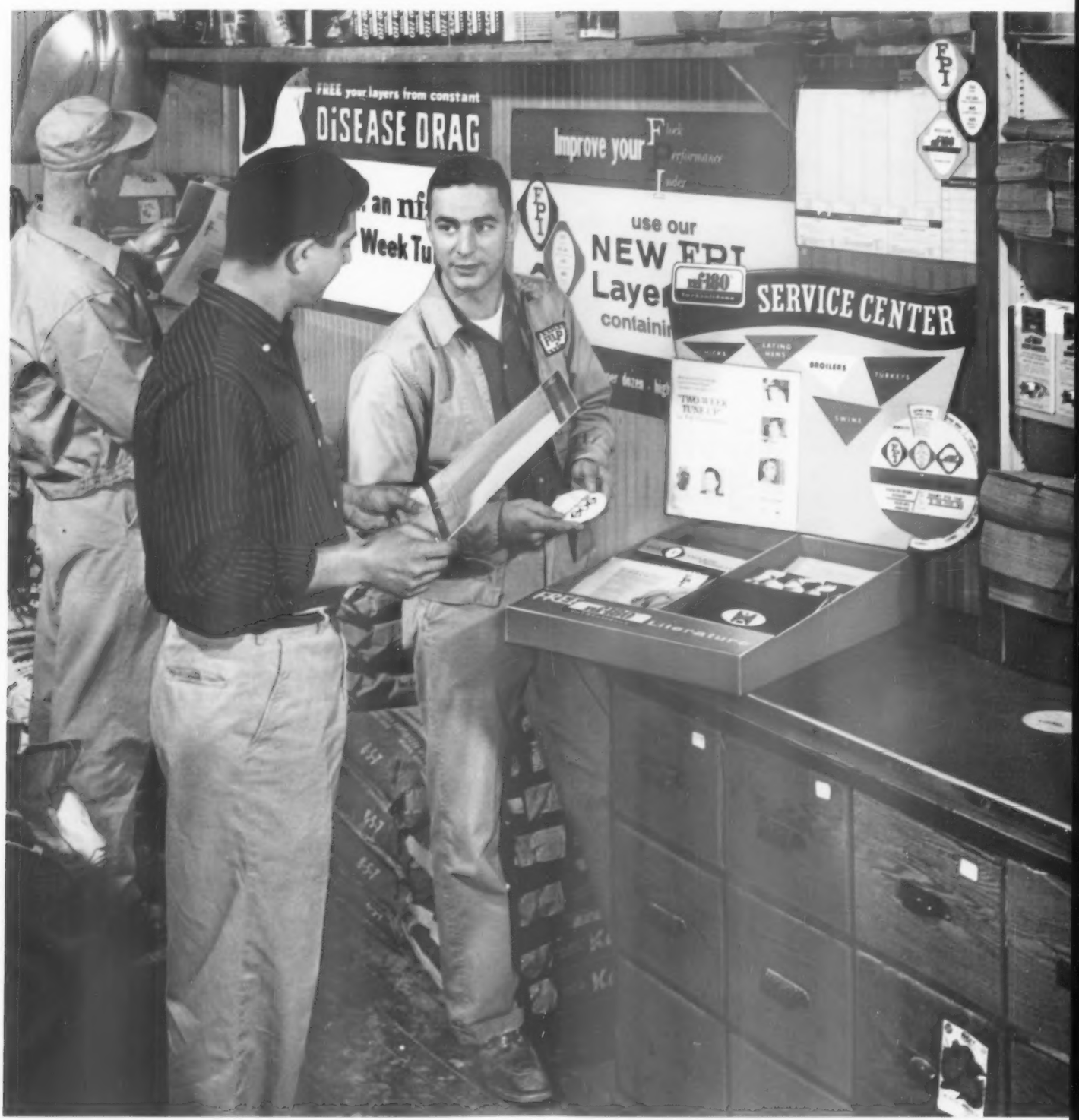
informative hand-out pieces, mailer, help sell FPI feeds

FPI "figure-it-out-yourself" folder is ideal for showing poultrymen how constant *disease drag* reduces profits. Eight-page FPI booklet and new "Make More Money" folder tell customers the complete FPI story . . . explain how your nf-180-FPI feeds boost layer income. And new FPI mailer that folds out to egg record chart will be saved and used for months.

useful management-helps for customers and prospects

This *Flock Performance Inventory* chart is the most complete, most useful egg record chart available to poultrymen. Makes it easy to check production, feed consumption, mortality and Grade A eggs against FPI goals. Pocket-sized Profit-Pointer dial shows nf-180 protection and treatment levels for specific diseases . . . explains all nf-180 feeding programs.

s promote FPI locally



Colorful FPI display materials attract attention, identify your store as the place to buy nf-180-FPI layer feeds. *King-sized posters*—one featuring nf-180 low-level feeds and one featuring nf-180 "Two-week Tune-up" booster feeds—spotlight the benefits of your nf-180 rations. The *nf-180 Service Center* . . . a really unique and attention-getting counter-piece . . . is a center-of-interest in any feed store. Contains "take-home" information about FPI laying feeds and other nf-180 feed uses. Built-in Profit Pointer dial shows nf-180 level for protection and treatment of specific diseases. Your Hess and Clark salesman is the man to see for all FPI selling-aids.

sell new customers—build layer feed tonnage—with the help of

. . . the three most convincing demonstrations of feed-power egg producers have ever seen

1 hot weather "two-week tune-up" A 2-week treatment of an nf-180 "booster" feed containing 100-200 grams furazolidone quickly and surely snaps layers out of summer slumps. **To protect against slumps,** recommend an nf-180 "booster" feed as soon as a hot spell is forecast.

2 housing-time "two-week tune-up" To overcome the stress of moving and getting pullets in production fast, recommend an nf-180 "booster" feed one week before and one week after housing. Then show customers and prospects how to keep performance at this high level by feeding your nf-180-FPI low-level feed continuously.

3 midwinter "two-week tune-up" When sudden weather changes or drafts throw a flock into a slump, an nf-180 "Two-week Tune-up" provides a swift answer. You can help customers and prospects **protect against** these slumps by coming in with an nf-180 "booster" feed as soon as a cold snap is predicted.

Egg producers face 3 especially critical stress periods each year: summer hot spells, housing-time stress and mid-winter cold. These stresses wear down a flock's resistance . . . allow *constant disease drag* to get the upper hand. A serious slump often follows.

When this happens . . . when a flockowner's way of making a living is threatened . . . he's ready to sit down and listen when you offer help. And you can deliver that help . . . boost production, improve efficiency, reduce mortality . . . with a 2-week feeding of an nf-180 "booster" feed (containing 100-200 grams furazolidone per ton of total ration).

This 2-week treatment with an nf-180 "booster" feed cleans out the bird's intestinal tract . . . clears up most of the stresses and troubles that hold performance down. We call this 14-day treatment a "Two-week Tune-up."

At the end of the 2 weeks . . . when prospects see how your feeds medicated with nf-180 improve results . . . they'll want to *keep* performance up with your FPI laying feeds containing a continuous low-level of nf-180 (25 grams furazolidone per ton).

Many feed dealers have found that helping flockowners out of trouble with an nf-180 "Two-week Tune-up" is the best way to get new customers started on their layer feed program. (Actually, it's important to begin with a "Two-week Tune-up" *whenever* you start flocks on the nf-180 low-level program. It's the quickest and surest way to clear up hidden troubles and make nf-180 low-level feeds really pay off.)

As you can see, trouble-shooting nf-180 "booster" feeds and nf-180 low-level feeds are inseparable partners. Together, they give you a feed-performance team that keeps birds living, laying longer.

REMEMBER: **88.2% of farmers surveyed are pleased with nf-180-medicated feeds . . . that 55.7% of feed dealers surveyed say they received direct inquiries from FPI magazine advertising . . . and that 53.4% of these dealers report definite prospects for future sales through FPI advertising. Consider these facts when your Hess & Clark salesman calls. He'll be stopping in soon.**

HESS & CLARK

Ashland, Ohio

Division of Richardson-Merrell Inc.

Litho in U.S.A.

Iowa Feed Conference Sept. 22-23 in Ames

AMES — The annual Iowa Feed Conference will be held at Iowa State University Sept. 22-23, animal husbandman Dr. H. L. Self, announced.

Sponsors are the Western Grain & Feed Assn.; Feed Institute, Inc.; Midwest Feed Manufacturers Assn., and Iowa State University. Meetings and the Friday evening banquet will be in the Iowa State University Memorial Union.

Pre-registrations will be received for attendance at the conference and the banquet. Those interested may write for registration forms to Dr. C. E. Summers, extension animal husbandman, Curtiss Hall, Iowa State University. Registrants are being asked to return forms by Sept. 8.

The two-day program, Dr. Self said, will interest feed dealers, commercial feed mixers, suppliers, processors and handlers of feedstuffs.

The Friday morning program will deal with current developments and principles in beef cattle feeding. The Friday afternoon program will deal with feeding and management of sheep, poultry and dairy cattle and with a discussion on bloat control.

The Saturday program will be devoted to swine feeding and its relationships to swine breeding and management.

McLaughlin, Ward Appointments to Three

JACKSON, MICH.—Three appointments have been announced by Ash Ward, president of McLaughlin, Ward & Co. Alex Polashak was named sales manager of the grain machinery division. He will direct all sales engineers of McLaughlin, Ward & Co. in Michigan, Indiana, Ohio and Illinois. Before his present appointment, Mr. Polashak was a grain machinery sales engineer for the company.

Alex Polashak

Bob Carroll of Barryton, Mich., has joined McLaughlin, Ward & Co. as a sales engineer. He will cover northern Michigan grain trade. Previously, Mr. Carroll was engaged in millwright work.

Ken Miller of Three Rivers, Mich., also has joined McLaughlin, Ward & Co., as a sales engineer. He will cover southwestern Michigan and nothern Indiana grain and feed trade. Mr. Miller has been engaged for 25 years in the grain and feed business in Michigan.

Washington Expansion

GRANDVIEW, WASH. — Kile & Co., Inc., has announced the expansion and reorganization of its operation here.

In addition to the sale and storage of feed grains, the operation of sales and service of feed milling equipment, mill lay-out, construction and erection of concrete and steel buildings of all types will be added to the operation.

Ben Tyler of Des Moines, Iowa, has recently purchased stock in the corporation and will be in charge of the construction division. He has 25 years of experience in this field and was recently associated with an eastern construction firm specializing in agricultural industrial needs.

Salesman Named

MINNEAPOLIS—Bruce E. Chevalier has joined the Sani-Flor poultry litter division of Western Mineral Products Co., Minneapolis, it was announced by E. C. Petersburg, division sales manager.

Mr. Chevalier will represent the company in Iowa, Nebraska, Colorado, and Wyoming, with headquarters in Omaha. He was formerly associated with Procter & Gamble and with Johnson & Johnson.

Territory Appointment

MUSCATINE, IOWA — The appointment of Edward Harris as assistant territory manager to Case Dykstra, has been announced by W. Schafenacker, Kent Feeds sales manager.

Mr. Harris has been associated with the selling of commercial feeds since 1944.

Stop
SCREW CONVEYOR BACKLASH
PATENTED
REPAIR ELONGATED COUPLING CONNECTIONS
WITH HERCULES FASTENERS
Don't discard screw conveyor flights because of worn couplings. HERCULES malleable iron fasteners renew worn-out conveyor connections . . . provide constant snug fit for quiet running and less wear. The fasteners . . . not the bolt . . . transmit the power, with greatly increased torque. Easily assembled without tearing down conveyor system.
SEE YOUR JOBBER OR FOR FREE BROCHURE WRITE TO:
SIOUX PRODUCTS
Box 143, Sioux City 2, Iowa

Sterling's got it—a special salt for every feed you mix!

Chances are you already know Sterling Supermix Blusalt for livestock feed mixing. It has seven vital trace elements thoroughly blended in the exact proportions nutritionists say are best for livestock. But do you know the others? There's Sterling Swine Supermix Blusalt with extra zinc to combat Parakeratosis—plus the other elements pigs need, and herdsmen insist on, in feeds . . . there's Sterling Gold Bond Blusalt, expressly blended for broiler and turkey feeds, heavy on manganese and zinc to prevent leg and hock weakness and to improve growth . . . and there's Sterling Greensalt for sheep, with 10% phenothiazine added to keep internal parasites from cutting flock profits.

Salt is vital in all animal feeds. So are trace elements—in varying proportions. Sterling combines them in the right proportions to bring you a special trace mineral salt for each of your feeds. Sterling saves you production time and money.

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Washington Feed and Poultry Firm Sees Complete Integration and Top Farm Management as Essentials

By Roger Berglund
Feedstuffs Managing Editor

Two basic points are made by a Washington State feed and poultry firm president in viewing industry developments:

(1) "The first step necessary in accepting the challenge of change, in my opinion, is complete integration from the producer to the retailer. . . . There is no longer room for separate profits for hatchery, feed store, grower and processor in the fryer business. The egg business is not much different."

(2) "No integrated operation has a chance of survival in either eggs or broilers unless the farm management is as good as, or better than, that of its competitors. . . I have often said that I could mix feed with a scoop shovel and beat the pants off a push-button mill in an integrated operation if I had only the best growers and could come up with top results every time."

Making these comments was Henry Fors, president of Fors Feed Mills, Inc., of Tacoma and Puyallup, Wash. —a firm which accounts for production of some 2½ million fryers a year through its own and contract operations.

It is a company which started as a hatchery, got into fryer operations and then a couple of years ago took over and remodeled a feed mill in order to produce its own feed.

Ernest Fors, brother of Henry, is vice president of the company which carries on integrated poultry and feed operations covering at present everything up to processing.

Henry Fors was one of the speakers on a "future of the industry" panel at the last Washington State Feed Assn. convention. The text of his remarks will be found in an accompanying article. In this article, he develops the points mentioned above, along with other points which he feels are important.

The Fors operations are an example of the developments in integration which the Fors brothers feel are necessary for poultry and feed enterprises to maintain and advance themselves in the Pacific Northwest and other areas. The company is involved in breeder flock, hatchery, feed and fryer production operations in either its own or leased facilities or on a contract basis.

Processing, Too

In addition, the operation will soon be completely integrated, including processing as well as feed and all phases of fryer production.

The Fors company has leased the Raineer poultry processing plant in Seattle from Armour & Co. and will be processing its own birds by midsummer. The firm will operate under government inspection and under the Raineer brand, which has been established in the area for some 20 years.

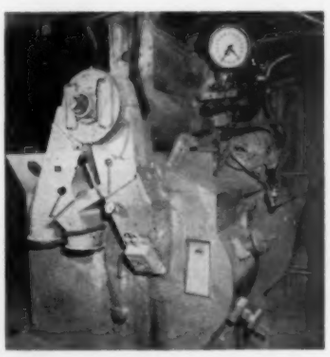
Of the 2½ million fryers produced annually, 1 to 1¼ million birds are grown on the firm's own or leased farms.

One unusual aspect of the poultry operations is the use for fryer growing of rhubarb sheds. These sheds, in which rhubarb is force-grown under hot house conditions for part of the year, have made excellent fryer houses, Mr. Fors said. In fact, he said that the houses have provided ideas for any future construction of fryer houses in the area where this firm operates.

The fryers (broilers) produced by the Fors firm go to processors serving the Seattle-Tacoma and nearby area. One problem in the area, of course, is competing with broilers from the

The feed plant of Fors Feed Mills, Inc. An existing mill was taken over in 1959 and remodeled to provide greater efficiency and production. On the left are the bulk load-out bins.

A truckload of bulk ingredients is being unloaded into the mill.



Feeds are pelleted on a 50 h.p. Wenger unit. Mr. Fors said broiler feeds with 2½% added fat are pelleted at a rate of some 6 tons per hour.

Henry Fors (standing) is president of Fors Feed Mills, Inc., and his brother, Ernest (seated), is vice president. They are conferring on some fryer production records.

This picture shows the batching scale above a 2-ton horizontal mixer. Dean Highland, using manually controlled gates, is batching a 2-ton mix from overhead ingredient bins. Mr. Highland is a nephew of Pete Highland, former mill owner and now mill manager for Fors Feed Mills.

Trucks are being loaded with feed which will go to firm's own and contract fryer operations. The bulk finished feed bins are located over a truck scale.

• • •

What It Takes to Compete in Fryer and Egg Production

By Henry Fors
Fors Feed Mills, Inc.

Can broilers and eggs be produced in the Pacific Northwest to compete with competition from other areas?

My answer is an immediate and emphatic "yes"—IF; and in this two-letter word lies the answer to the above question.

I think the record speaks for itself; this area has maintained itself in a competitive position with other areas. Now, IF the industry had not instituted the many changes that have taken place in the last five years, I assure you other areas would have captured our markets. The big question now is IF we can continue to recognize and apply the changes that are necessary to keep pace or forge ahead of our competition from other areas.

I wonder if maybe this question of our competing with other areas is not put wrong. I doubt if there is a man in the industry in this state who honestly feels that there is a real danger of permanently losing our industry to outside competition. Isn't our real fear, the real question, "Can we as individuals or as companies meet the local competition that will be necessary to meet outside competitors?" Isn't it a matter of not whether the job is going to get done, but rather how it will be done and who will do it? This is the question in my mind.

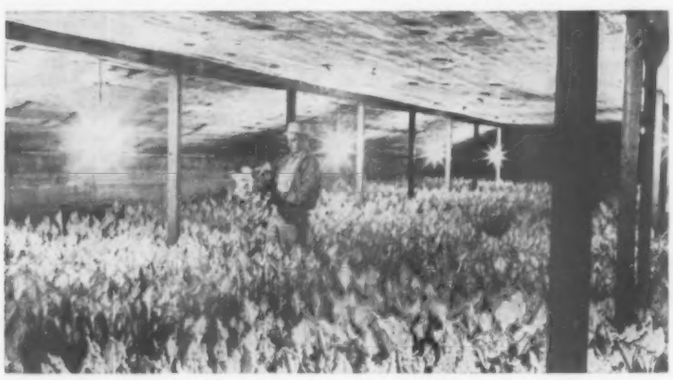
EDITOR'S NOTE: The accompanying article is from a talk by Henry Fors, president of Fors Feed Mills, Inc., Tacoma, at the Washington State Feed Assn. convention. Mr. Fors was specifically discussing the question, "Can Broilers and Eggs Be Produced in the Northwest to Compete with Competition from Other Areas?" He offered answers to this question and, in addition, presented views on points which he feels are important in the feed and poultry industries as they are now developing in his and other areas. Mr. Fors' comments are of interest to feed men in other areas as well as the Pacific Northwest.

Before discussing some of the changes that to me seem inevitable, it might be well to review our present status. What are our advantages —our disadvantages—in respect to outside competition?

It's no secret that our competition from the southern broiler areas has

(Turn to PRODUCTION, page 100)

Pictured here are two rhubarb sheds which also are used for producing fryers. There is a wire partition down the center between the two buildings. Note the ridge ventilator, large end doors and side wall openings for summer brooding. There also are large doors in the ceiling which open for ridge ventilation. The buildings provide excellent winter brooding because of low roofs and double walls.



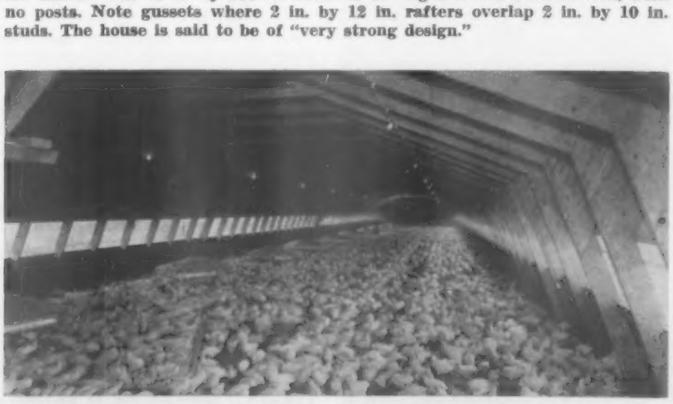
This photo shows hothouse rhubarb being forced for out-of-season markets. Crowns of rhubarb go into the houses in January, and then chickens go back into the houses in April or May after the rhubarb has been force-grown for marketing. Al Duris, the Fors field supervisor, is shown in the building. This particular building is his own.

South and Southwest. In the accompanying article, Mr. Fors offers comments and suggestions on this aspect of poultry operations as well as others.

Actually, the Fors are confident that their firm and others can compete with southern and other producers for broiler and egg markets in the Pacific Northwest—if "we can continue to recognize and apply the changes that are necessary."

The Fors company started as a hatchery back in 1936, producing egg-type chicks. Then in 1945, the firm moved into production of chicks suitable for broilers. Within a few years, the company also became the marketing agency for fryer chicks which were sold. Arrangements were made with four processors to take the finished birds, thus bringing together producers looking for markets and processors looking for a steady supply. The Fors company made a marketing contract with producers to

This is an all-plywood (water-proof) broiler house popular as new construction at the present time in the Pacific Northwest, according to Mr. Fors. Plywood sheathing is lapped to form a finished roof. No other sheathing is used. Non-drying mastic is applied on all laps to prevent leaks. Mr. Fors said the house is excellent for warm weather brooding but too cold, in his opinion, for winter. The 40 ft. by 250 ft. house is of ridged frame construction, with no posts. Note gussets where 2 in. by 12 in. rafters overlap 2 in. by 10 in. studs. The house is said to be of "very strong design."



An interior view of one of the all-plywood broiler houses.

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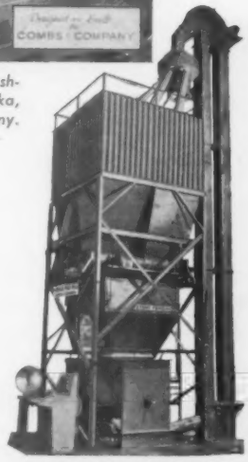

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That's because poultrymen everywhere depend on PILOT BRAND to help them get more eggs with stronger shells.

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Processors of DRIED FISH SOLUBLE PRODUCTS
A "MUST" IN EVERY SWINE OR POULTRY RATION
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whom it sold chicks, and the processors had a contract with Fors.

Through this service, Mr. Fors said, processors had birds available all the time as desired. Within two years, fryers accounted for by the firm climbed from 200,000 to about 2 million a year. As mentioned above, the total now is about 2½ million.

Mr. Fors explained that processors now contract in advance for the birds they want at a certain price over an average price for three southern states. The fryer price in the area usually is about 2½¢ over the southern average, he indicated. There also is a floor price so that there will be responsibility for the production asked for.

At first the Fors company worked with other feed mills in providing feed for the fryer growers in its program, but then, he said, because of mark-up, formulation and other reasons, the firm got into its own feed manufacturing in 1959. The company took over an existing small mill and remodeled it.

Contract Operations

In addition to producing fryers on its own and leased farms, the company has contract operations. The company owns the chicks and furnishes the feed and medication. Growers are paid a base of 2¢ per pound, with bonuses given for feed efficiencies under 2.5. The bonuses are 1¢ per bird for an efficiency of 2.4 to 2.5, 1½¢ for 2.3 to 2.4 and 2¢ for under 2.3. The birds average about 3¾ lb. when marketed. Growers are paid 2½¢ for brooding and litter. Another cost is .17¢ per pound to the Washington Fryer Commission for promotion of Washington fryers. (This, as indicated in the accompanying article, has helped in obtaining premium prices for Washington fryers.)

Mr. Fors pointed out that chicks and feed are priced out to each grower, and a cost account is kept for each grower. At the end of the year, if there is a profit on an individual operation, 60% of this profit goes to the grower and 40% to the company.

The Fors company owns about 60% of the breeders which supply hatching eggs for the firm's operations. The other hatching egg producers own their own breeder flocks but use mostly Fors feed.

Some 500,000 to 700,000 fryers are produced annually on Fors-owned farms. Another half million or so are produced on leased farms.

The leased facilities include rhubarb sheds in which rhubarb is forced for out-of-season markets. These buildings are used for chickens when rhubarb is not being grown.

Rhubarb is grown in the field for two years before it is old enough to force. It is put into the houses on Jan. 1, and then chickens go into the houses in April or May. Three batches of chickens per year can be produced in the houses.

The furnaces in the buildings to provide a temperature of 65° for forcing rhubarb also provide the heat for brooding chicks. Hot air is piped to 4' x 8' veneer panels for brooders.

Mr. Fors said that the houses provide excellent winter brooding because of low roofs and double walls. A group of 8,000 birds was brooded this past winter for a cost of 1½¢ per chick for oil. A minimum temperature of 62° was maintained at all times when the birds were being grown. The litter was very dry (unusual in the area because of the mean 42° temperature and 85 to 90% relative humidity). The birds were marketed in January at 9 weeks and 2 days at an average weight of 3.97 lb., with a 2.34 feed conversion.

Commenting on the rhubarb growing, Mr. Fors noted that 6,000 sq. ft. of building space will produce 25 to 30 tons of rhubarb. There are only two or three places in the U.S. where climatic conditions are right for this operation. The rhubarb produced in the Tacoma area is shipped all over the U.S., fresh and frozen.

It was noted that the fertilizer produced by the chickens is very valuable for field rhubarb production.

Most of the rhubarb sheds will hold about 5,000 birds each. Some growers have about 10 buildings. The Fors company leases the houses, furnishes the equipment and pays a wage, plus a bonus, for handling the broilers.

Mr. Fors said that the oil heating systems used in the sheds are excellent for brooding and providing heat when needed. Temperatures are uniform and the houses are warmer in cold weather.

The full-time contract growers in the Fors operations generally have 30,000 or more birds each. The part-time producers raise batches of 3,000 to 10,000 birds.

Mr. Fors mentioned that efficiency on the firm's own or leased farms generally tops the average of contract growers. This is attributed to better management and supervision.

The processors served by the Fors company have their own brands of chicken.

Speaking of processors, Mr. Fors said that he feels that in the future, more of them will own producing operations or will share risks in production.

In any event, as outlined in the accompanying article, Henry and Ernest Fors feel strongly that integration will continue to increase—that it is a system which will produce a pound of meat or a dozen eggs at the least cost.

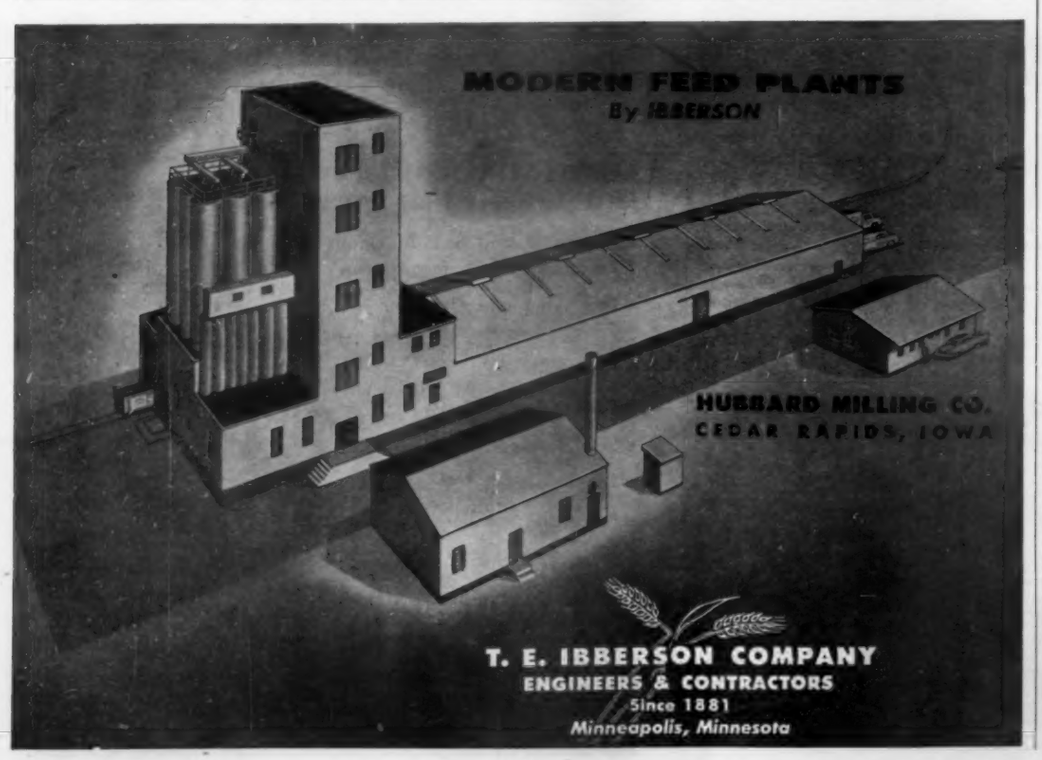
The company is interested in the egg business as well as fryers, but currently the firm's operation is largely a fryer producing business. By the way, some feed is sold to others, but it represents only about 5% of the business.

Management on Farm

As mentioned above and explained more fully elsewhere, the Fors brothers feel strongly that management on the farm is one of the most critical factors in an integrated feed-poultry operation. And it is the management job on farms as well as in the mill that sets the price which the company in effect obtains for its feed.

The company's field supervisor is

(Turn to ESSENTIALS, page 100)



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"What do I mean by compete? Well, to stay in this business, you've got to produce as economical as possible. We're feeding for profit . . . and Stilbosol in our ration helps us make that profit.

"We're feeding 100 head right now. 92 heifers and 8 steers. From our past records, we figure we get about ½ pound extra daily gain when we feed Stilbosol. That's for both steers and heifers.

"We feed to low choice and choice, and our cattle never have any trouble making those grades. We usually market our steers when they weigh 950 to 1000 pounds and our heifers when they reach 850 to 900 pounds.

"Seems like competition is getting tougher in everything you do. Last year I won the 5-Acre Corn Contest with an average of 141 bushels per acre. This year I had 153 bushels per acre and came in fifth," Stanley smiled.

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Swine Management

Small litters and weak pigs reported this spring may indicate shortages in herd management, comments Dr. Maynard Spear, extension veterinarian at Iowa State University.

There are many possible causes of small litters and weak pigs, many of which can be avoided, according to Dr. Spear. Inheritance, nutrition, management, breeding practices and disease, single or in combination, are the most frequent causes he cited.

He said that some sows have inherited weaknesses that limit their ability to produce a large litter of strong pigs and that this can be serious in individual herds but is a minor problem generally.

"Energy feeds must be properly supplemented with proteins, vitamins and minerals in order to allow proper reproductive performances," Dr. Spear says. "The quality of the energy feeds, excluding possible toxic substances, is of minor importance providing they are properly supplemented.

"Proper management is essential in relation to all other possible causes.

"Breeding practices are mainly related to age of the gilt and boar; past, present and future plane of nutrition; fertility of the boar; past and present disease status and disease control measures, including testing and vaccination procedures.

"Swine influenza, brucellosis and leptospirosis are the most common diseases associated with poor reproductive performance. It is not uncommon to find other causes. Bacterial or viral infections are found as primary or secondary causes of small litters and/or weak pigs. Vaccination against hog cholera during gestation has been found to produce dead and weak pigs and is not recommended."

Dr. Spear said, "We don't have sufficient controlled research to support clinical evidence as to the effect antibiotic-resistant strains of disease-producing organisms may have on reproduction performance."

Dr. Spear adds that positive diagnosis may be determined only through accurate history, symptoms, laboratory tests and careful study of the total picture as presented in every case.

◆

Layers Need Water

Now that spring is here, many poultrymen will think that the problem of water supply in the laying house is over, says a West Virginia engineer. This is true, so far as winter freeze-ups and keeping the water at a warm temperature are concerned, but there can be water problems through the summer months the same as in winter months, according to Waldo E. Bell, extension agricultural engineer at West Virginia University.

"The birds will consume more water during the summer months because of the high summer temperatures encountered, and everyone knows that it takes water to produce eggs," he said. "Hence, if the present water supply is not adequate, now is a good time to begin planning for a more adequate water supply.

"Water has many uses around a laying house in addition to supplying the birds with enough water for their egg production. Throughout the summer months, there are times when excessive high temperatures can result in a definite drop in egg production. By sprinkling the roof of the house with water, using ordinary lawn sprinklers or, perhaps, irrigation sprinklers, the inside of the house can be kept cooler and a decrease of egg production prevented."

◆

Sheep Flock Profitable

The sheep flock is still a pretty profitable venture for the farmer who is a careful manager, according to L. J. Kortan, associate extension livestock specialist at South Dakota State College.

At a recent sheep field day program at the college, he said that the producer who has a farm flock of 100 ewes should be able to gross approximately $32.50 per ewe providing he can average a 140% lamb crop, 140 lb. of lamb and 9 lb. of wool per ewe.

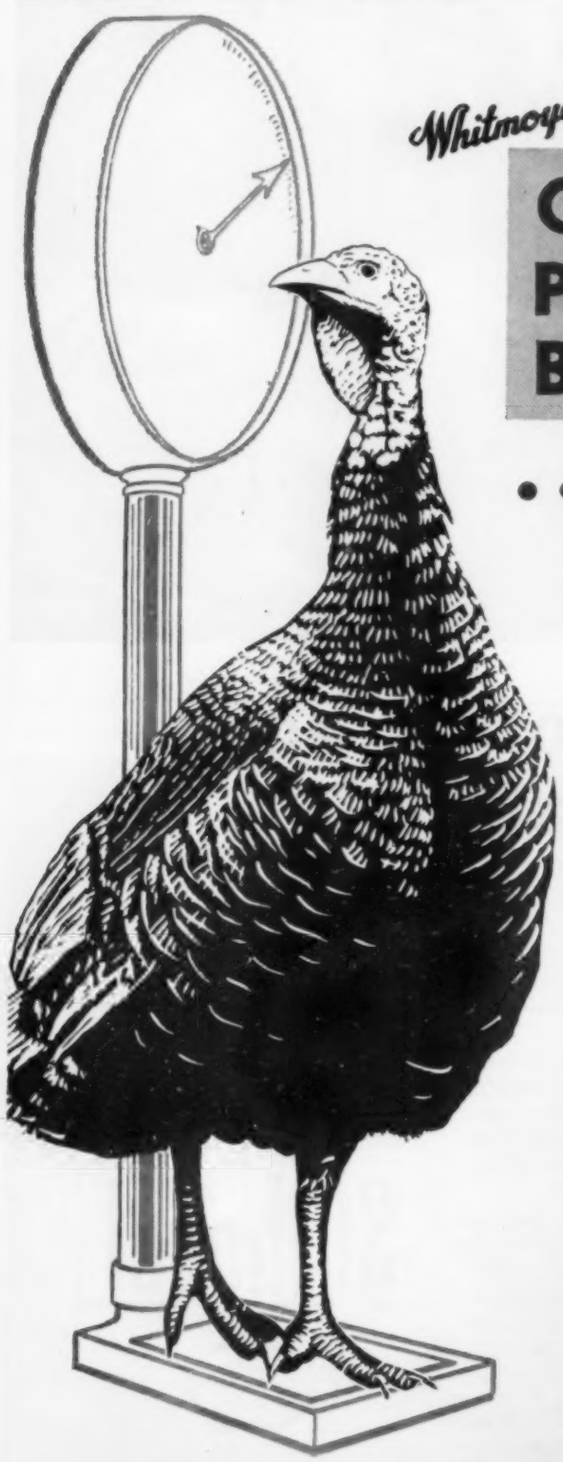
He said that cost of production, figuring feed for lambs and ewe, pasture, mineral, veterinary expenses, taxes, insurance, depreciation and repairs on equipment and other costs would total approximately $23, leaving about $9.50 return per ewe.

◆

Cows Need High Energy

Dairymen have been advised to remember that their dairy herds still need feed when first shifted onto pasture. "Make the change gradual," advises Dr. Stanley N. Gaunt, extension dairyman, University of Massachusetts.

"Cows put on lush young grass directly, no barn feeding first, will not only tend to gorge themselves on



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this palatable high moisture feed, but they will not consume enough forage or grain to meet their needs," says Dr. Gaunt. "Consequently milk production may drop and butterfat test too, and if it is legume pasture—ladino clover—bloat may result.

"So, feed some hay before putting cows on pasture and limit the pasture feeding at first. Don't cut that grain too much either. If they won't eat enough grain, try some supplementary feed like citrus pulp for variety."

◆

Automation in Poultry

Automation will not make human workers obsolete on the farm, say researchers at New York State College of Agriculture, Cornell University. "In fact," they say, "there are many cases where automation has actually increased the need for good management."

Cornell economist Dr. L. B. Darrah said that in the poultry field a study under his direction has found that there are wide variations among farms in the number of eggs laid per hen, labor requirements per dozen birds and mortality rate among the fowl. "The variability from farm to farm indicates good management is more important than ever before," he commented.

Yet automation is moving into poultry farms at a steady pace, he said. "Recent developments on New York poultry farms have included automatic feeding, automatic cleaning of buildings, automatic egg gathering and reduced space allotments for layers in cages," Dr. Darrah says.

In the 53 New York farms studied, low production costs depended more on good management than on the type of management system used, he commented. The total cost to produce, handle and sell a dozen eggs averaged 42.3¢ for cage systems, in which the hens were housed in individual or colony cages; 42.2¢ for high density operations, in which special housing arrangements permitted the farmer to keep more hens in a given area than would normally be possible, and 41.7¢ for conventional operations.

"Under current operating conditions and practices there is little difference among the three systems in the total cost per dozen eggs produced," Dr. Darrah says. "Each system has advantages and disadvantages which largely offset each other." The study shows high density systems provide the most efficient use of human labor, but give lower egg production than the other two systems.

"There was great variability in the time spent on production chores," Dr. Darrah states. "On one large farm, only 12.4 minutes per hen were required for production chores, in contrast to nearly 55 minutes needed on a small conventional operation."

Dr. Darrah says this variability in labor efficiency underscores the importance of human workers, even in automated systems. "Careful planning is essential, especially regarding such factors as the positioning of buildings for maximum efficiency and effective layouts within the buildings themselves," he declares.

◆

Efficient Turkey Rearing

The University of Georgia advises turkey growers that providing the proper amount of housing and equipment is one way that a more efficient job of growing can be done.

The university's extension poultry department is providing the following figures for broad breasted bronze and broad white turkeys for housing and equipment for each 100 poults:

Brooder house: Floor space, 100 to 150 sq. ft.; litter, shavings, peanut hulls or cane pulp.

Feeders: 1-3 weeks, two 48 in. chick type; 3-8 weeks, three 48 in. broiler type, and 8-26 weeks, one 10 ft. bulk, self-feeder type.

Waterers: 1-3 weeks, four half gallon jar type; 3-8 weeks, one 3 ft. trough type automatic, and 8-26, one 3 ft. trough type automatic.

Shelters in early spring: One 8 by 12 ft. shelter.

Total range area: One acre.

Shade on range: Necessary during hot weather.

Roosts: Desirable but not necessary.

Poultry Integration Under Fire in Canada

VANCOUVER, CANADA — Prosecution of feed companies promoting vertical integration in the poultry industry has been demanded by the British Columbia Fraser Valley Producers Assn., according to a report in Poultry & Eggs Weekly.

The report said that "failing this, the government was asked to introduce new legislation designed to control integration and with sufficient teeth to eliminate its more vicious practices."

Derek Arnold, president of the British Columbia Federation, said that integration was "menacing" producers in the Fraser valley area of his province which currently produces two-thirds of the egg requirements in the area.

"My main objection to integration is that producers already produce sufficient eggs for the available market, and the appearance of vast production units will cause serious damage to present price and marketing structures," he said.

"One large feed company has offered to loan 'selected' farmers up to $100,000 for construction of buildings and production units. Terms of the loan are generous, and it is secured by a mortgage.

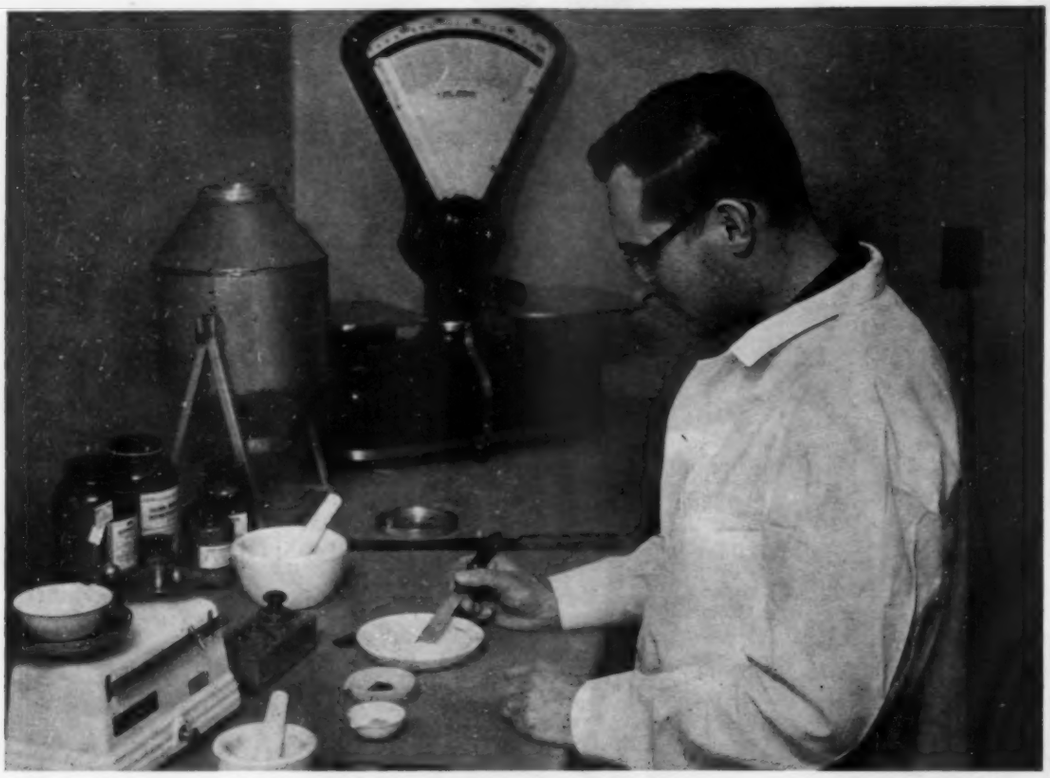
"The feed corporations intend to install between 10,000 and 25,000 layers per unit. This means that, with completion of each unit, a large number of efficient independent farmers will be driven out of business."

Stilbestrol Advice

SAN FRANCISCO — The Western States Meat Packers Assn. is advising its members to require feedlots to provide written assurances that cattle have not been fed stilbestrol for 48 hours prior to delivery to the packer.

WSMPA said many western packers had already instructed truck drivers to demand such certificates or statements before picking up the cattle. The organization said the practice seemed to be an "excellent way" to avoid violating the Meat Inspection Division regulation requiring that no stilbestrol be fed to cattle within 48 hours of the time they are slaughtered.

How this mixing process can make a



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On the next pages you will find the role Merck has played in animal health during this most bountiful age.

Merck Milestones
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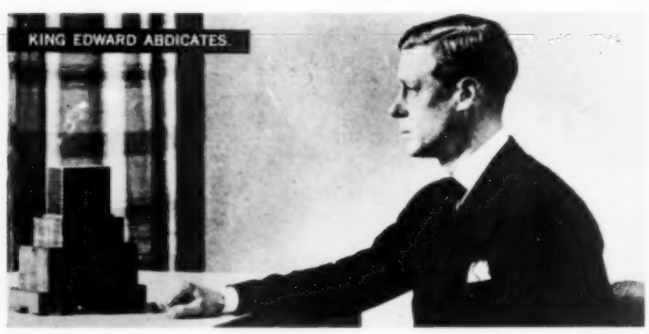
1930: IODINE PRODUCTS—Merck pioneered in designing products especially for use by the feed industry.

1934: ASCORBIC ACID—Merck isolated Vitamin C from plant sources, commercially available in 1935.

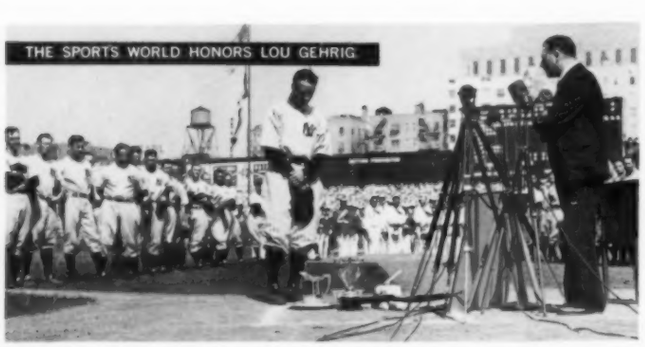
1936: THIAMINE—Vitamin B_1 synthesized for the first time in the Merck Laboratories.



1936: SULFONAMIDES—Sulfanilamide followed by sulfathiazole, sulfadiazine, sulfamethazine and other "sulfas", made Merck a leading producer of this important family of drugs.

1938: RIBOFLAVIN—Merck developed the first practical, commercial manufacturing process for Vitamin B_2.

1938: NIACIN—Niacin first made available for use in animal nutrition.



1939: PYRIDOXINE HYDROCHLORIDE—Vitamin B_6 synthesized by Merck; commercially available in 1940.

1940: CALCIUM PANTOTHENATE—Merck first to synthesize this vitamin and make it commercially available in 1941.

In Animal Health

op of World News

1944: CORTONE®—Cortisone was first synthesized by Merck research workers and became the first corticosteroid supplied to the veterinary profession.

1946: STREPTOMYCIN—Following its success in development of streptomycin, Merck synthesized dihydrostreptomycin. Subsequently, both of these remarkable antibiotics were made available in suitable product forms for control of livestock and poultry diseases.

1947: VITAMIN B_{12}—Merck chemists discovered, later developed and produced Vitamin B_{12} in pure crystalline form. Shown to promote animal growth, the vitamin was made available as a feed supplement.

1948: S.Q.®—Merck introduced sulfaquinoxaline, the first all-purpose coccidiostat to control and help prevent outbreaks of coccidiosis in broilers, replacement birds and turkeys.

1950: VITAMIN A—Palmitate and acetate forms of Vitamin A were made available commercially.

1951: PRO-PEN®—The first stable form of penicillin was offered to the feed industry. A U.S. patent, granted Merck for these pioneering efforts, was made available to feed manufacturers on a royalty-free basis.

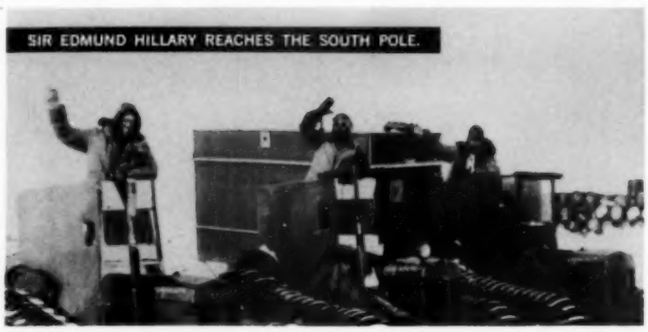
1955: NICARB®—Merck created nicarbazin, the most effective coccidiostat for continuous preventive-feeding of broilers. It has been tried, tested and proved on over four billion birds!

1956: PRO-STREP®—This combination of procaine penicillin and streptomycin sulfate was developed as a low-cost antibiotic feed supplement—with "broad spectrum", dual-action effectiveness.

Merck Milestones In Animal Health

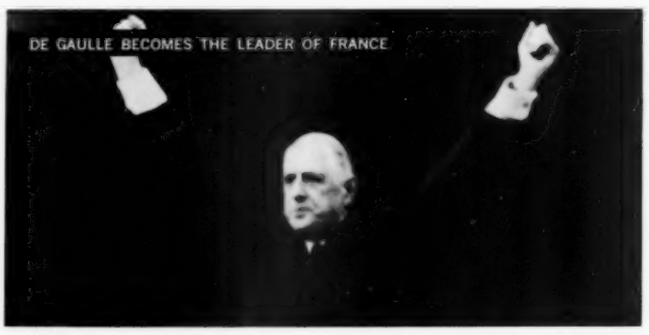
against a backdrop of World News

1957: DIURIL®—Merck discovered and introduced chlorothiazide, the most potent diuretic for oral use in man and animal.



1957: HEPZIDE®—Nithiazide, a water-soluble powder to aid in *controlling* blackhead in poultry, was introduced; later made available as a feed ingredient to aid in the *prevention* of blackhead.

1958: GLYCAMIDE®—Introduction of glycarbylamide, the safest of all coccidiostats, helped replacement flocks to develop immunity with top weight gains and feed efficiency.



1958: AGROZYME®—The first fermentation product introduced to increase enzymatic action, and to improve the nutritive value of western barley in poultry rations. Subsequent use is exploring the value of Agrozyme in improving weight gains of cattle on feed.

1959: SULFABROM®—This new, long-acting sulfa drug, sulfabromomethazine, was made available to the veterinary profession to produce effective blood levels lasting up to 48 hours in cattle.

1960: AMPROL®—Latest of the Merck coccidiostats, amprolium features a new type of anticoccidial activity. AMPROL was the first new drug cleared for use in combination with certifiable antibiotics under provisions of the Food Additive Amendment.

1960: New ANTILEPTO®—Merck developed a new improved leptospira pomona bacterin, the first to reduce anaphylactic shock to a minimum.

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Reports on Studies Of All-Concentrate Rations for Cattle

DAVIS, CAL.—Cattle fed all concentrate rations can give good gains on less feed than the more conventional rations, but these animals often require closer supervision and care to prevent digestive disturbances and resultant lowered performance.

That is the word from Dr. G. P. Lofgreen, department of animal husbandry, University of California, Davis.

He said, "In the past two years the feeding of all concentrate rations to fattening cattle has increased tremendously."

Dr. Lofgreen said that although a few animals have been fed all concentrate rations prior to this time, the recent interest was stimulated by research by the Ralston Purina Co. which demonstrated that the hull in barley was apparently present in sufficient quantities to provide the minimum roughage requirement. To offset the nutrient deficiencies of barley a supplement was devised to be fed at a level of 1 or 2 lb. with free choice rolled barley, he added.

Because of the interest in such a feeding program and to obtain information on various modifications of it the University of California Agricultural Experiment Station and Extension Service have conducted tests at the station and in the lots of cooperating feeders, he stated.

"In an early small pilot study 700 lb. steers were brought on feed from a complete roughage feed to the all concentrate feed in 18 days and were fed for a period of 141 days with no serious digestive disturbances occurring," he said. "The experimental lot and a control lot fed a conventional ration averaging approximately 25% roughage for the entire period gained about 2.75 lb. per day and all graded choice at slaughter.

"There were no differences in carcass composition but the all concentrate lot yielded 62% while the controls yielded 60%. The feed required to produce a pound of gain was 7.4 and 8.4 lb. for the all concentrate and control lots respectively. The supplement devised to correct the nutrient deficiencies of the barley consisted of the following percentage composition: Cottonseed meal, 57; alfalfa meal, 20; molasses, 10; oystershell flour or ground limestone, 7; trace mineralized salt, 6, and 3,500 international units of vitamin A per pound of supplement. The average consumption of the supplement was 1.1 lb. per head per day and the rolled barley consumption averaged 18.7 lb. per head per day. The control steers by way of comparison consumed an average of 23.5 lb. of total feed per day.

"Since this trial a number of cooperative field trials using various modifications have been run. In general their results confirm the original findings that such a feeding program can result in good gains on less feed than the more conventional rations. It has often been observed, however, that the animals require closer supervision and care to prevent digestive disturbance and resultant lowered performance."

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The Right Direction?

A Look at the New Feed Grain Law

By Dr. L. C. Cunningham
Cornell University

The flood of factual information about the new feed grain program makes it difficult to sit back and ponder the question "How can the price of a commodity be maintained, let alone raised, when through increased technology its production exceeds the demand?" One can easily become enmeshed in the many provisions of the program and neglect the basic question.

As everyone must know by this time, the national average loan rate on corn has been raised from $1.06 to $1.20 bu. Here is a significant fact. After six years of gradual reduction in corn support levels from $1.62 for the 1954 crop, a reversal in direction has been made. The announced intention is "to stop buildup of the feed grain supply that is now at an all-time record high level."

Some pretty thorough analysis is required to show how a higher support price will throttle a supply which lower supports failed to do. An obvious answer is to provide an incentive not to produce. How well will it work? While the new program is being tried, some related questions spring up. What will be the impact on livestock production? This nation has experienced an increasing flow of grains and ingredients through the commercial stream. How will this flow be affected? How does the country elevator operator or other local businessman live with this program?

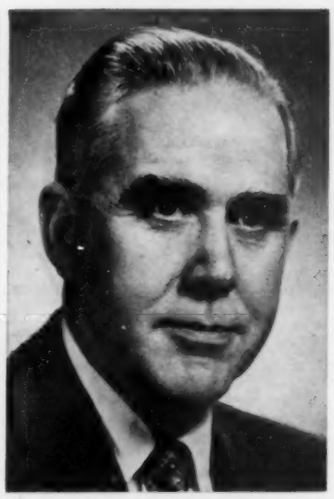
CORN PRICE SUPPORT—First, let us examine corn prices of recent years. The national average price received by farmers has been fairly stable at a few cents above one dollar a bushel beginning with the 1957 crop. There have been seasonal changes, of course, of about 20¢ from low to high. Prices during these years have hugged pretty close to the non-compliance support level (see accompanying chart). But corn stocks have accumulated rapidly, despite the expansion in domestic livestock production and corn supports. Corn for grain production increased from 3.1 billion bushels in 1957 to 3.9 billion bushels in 1960. Stocks of corn owned by Commodity Credit Corp. rose by nearly a half billion bushels. End-of-year stocks of the four feed grains—corn, oats, barley and sorghum grains—rose 26 million tons, an amount equal to the total concentrates fed to dairy cattle for a year. With such burdensome supplies the price of corn could not gain free market status, but hung heavily to support levels.

What may be the impact of the program on production and supplies? Obviously, the answer depends on the participation in the program. Some bench marks for judgments will help.

SOME BENCH MARKS—Following is the percentage of the total corn production placed under price support each year beginning with 1954:

Year	Percent
1954	8.5
1955	13.0
1956	13.8
1957	10.8
1958	10.0
1959	12.1

The similarity of these percentages, together with those for the years back to 1948, strongly suggests that the producers of come 10-15% of total corn production take to the loan programs. Reports of CCC show that about 273,000 new loans were made on corn in 1959-60, which number is 14% of the nearly 2 million farms reporting corn harvested for grain in 1959. The acreage harvested was nearly 74 million acres that year. Perhaps there will be much wider participation in the 1961 program, because the incentive payment is comparatively large, all non-compliance price support is withdrawn, and large stocks of corn hang over the market.



L. C. Cunningham

AUTHOR—Dr. Cunningham has been a member of the department of agricultural economics staff at New York State College of Agriculture, Cornell University, since 1934, the year he was awarded the degree of doctor of philosophy by the institution. Following graduation from the University of Illinois in 1926 he was a county agricultural agent. Then, in 1930, he traveled east to Cornell.

Dr. Cunningham has worked closely with the commercial feed industry for many years. He has served continuously since 1943 on the AFMA College Feed Survey Committee. From 1955 to 1957 he was a member of the American Dehydrators Assn. research council.

More than 60% of the corn crop is used on the farms where it is grown. It is probable that corn growers in that category would participate in only limited numbers.

These facts lead to the conclusion that the effect of the reduction in corn production by the program may be equalled if not exceeded by the effect of decisions with respect to disposition of CCC stocks of corn. Sales of corn by CCC have been stepped up materially. So far this season, beginning Oct. 1, 1960, compared to a year ago, total sales have risen from 60 million to 129 million bushels. In late April, cash corn prices were about 15¢ bu. lower than a year earlier.

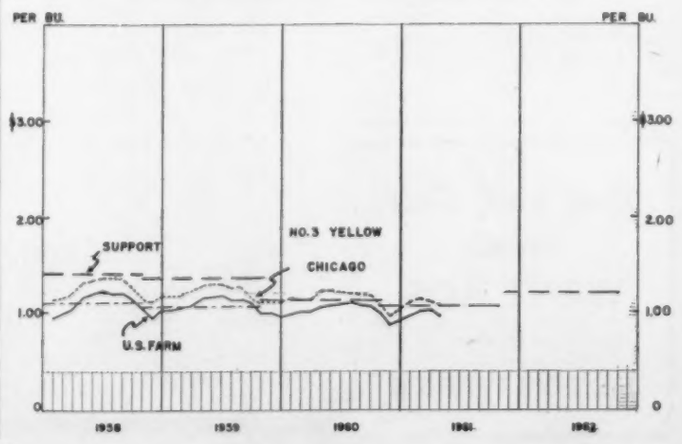
SMALL EFFECTS ON IMMEDIATE SUPPLIES—The immediate effect of the 1961 program on livestock production so far as reducing supplies of feeds is concerned is expected to be small in the Corn Belt and in feed-deficit areas. Uncertainty of corn prices is the big factor, however, in the stability of meat, milk and egg production. Livestock producers in the Corn Belt probably feel safest to proceed to raise the corn they need to feed. Dairymen and poultrymen in feed-deficit areas wonder whether market prices will be over-influenced by government action. These producers fear cheap feed as well as high-priced feed. The major poultry and livestock enterprises have plenty of built-in cycles, without adding wide fluctuations in feed prices.

CONSUMER EATS WELL AT MODERATE PRICES—Total meat, milk and egg production in this country is near or at a record level—some 200 million livestock production units, compared with 181 million units in 1957-58 and 168 million units in 1953-54. Basically, we must eat our way out of this surplus grain situation. No move should be made that will shake the confidence of these users of grains.

The comparatively stable corn prices of recent years, already mentioned, together with the large feed supplies, account for great expansion in livestock products. The availability of these products in abundance at moderate prices accounts in large part for consumer tolerance of the heavy cost of farm programs. Our potential for a still higher standard of living in this respect is large.

LITTLE DISRUPTION OF FLOW—The commercial feed industry operates most efficiently under free market prices. Price ceilings, price supports, quotas and the like all cause inefficiencies in the industry. Perhaps the biggest immediate hazard is inventory position. Only experience will tell how the handling of feed grain certificates will work out. Purchasing departments may have some new headaches. By and large,

Corn Prices: National Support, U.S. Farm and Chicago Cash (No. 3 yellow), By Months, January, 1958, to April, 1961



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EGGS ARE GOING TO HAVE SOCIAL APPEAL

ITHACA, N.Y.—From now on, eggs are going to have social appeal. Anyone who wants zip, zest and go-power will be urged to eat them. This was resolved at a meeting of the promotion committee of the New York Poultry Industry Coordinated Effort, a new organization aimed at improving business prospects of poultrymen.

Members voted to cooperate with Poultry and Egg National Board to boost egg sales the last two weeks in May. Cooperation from feed companies, hatcheries, farm groups and others will be sought. Geneva, N.Y., will be a test city for the promotion campaign.

The committee heard arguments favoring a more personal approach to egg consumers. One speaker stressed the need to associate eggs with "pep, power and zest-for-living." "Don't tell people to buy eggs for their nutritive value," he advised. "Don't say 'eggs are good for you.' Give people something they want—zip, drive, personal attractiveness, ability to see a hard day through and still look young at the end of it. Stress the fact that eggs give these qualities."

though, the 1961 program is not likely to have a major effect on ingredient supplies and the commercial stream will probably continue to flow at its 40-million-ton pace.

Elevator operators and other handlers of grains will, of course, be affected to the extent reduction in production is brought about. In the final analysis, corn production adjustments will be made in marginal areas. But in the 1961 feed grain program, this is not the intent. The upper range of payments at the 50% rate in Illinois is $49.70 per acre. In North Dakota the upper range is $19.40. With passing time, elevators will still be needed in Illinois.

CHOICE OF ROADS—In conclusion, the most questionable aspect of the 1961 feed grain program is the start again down the path of higher price supports and production controls in agriculture. Compared with 1960 support levels, corn has been increased 13%, grain sorghums 27%, oats 24%, barley 21% and soybeans 24%. The support level for butterfat was raised 7%.

We read in the lesson of the postwar years that this path does not lead to a solution. Permitting the economy to price the commodity in the market place in line with its true cost of production, with some reasonable safeguards, continues to be the road of real promise.

ESSENTIALS

(Continued from page 88)

Al Duris, a graduate of Washington State University.

A son of Henry Fors also may move into the business. He currently is studying business administration at Washington State.

Feed Mill

The feed mill which was taken over in 1959 was remodeled under the direction of Forrest Larson, mill engineer and supplier now located at Vancouver, Wash.

Ingredients are received and handled in bulk. The ingredients are in nine bins over a hopper scale and mixer; the storage amounts to something over 100 tons. Proportioning is manually controlled.

Finished feed is moved by air to bulk bins over a truck scale where the trucks are loaded.

All of the feed is pelleted, on a Wenger unit, for better handling and feeding results.

The plant produces 1,200 to 1,500 tons a month. Four men operate the mill, including receiving, manufacturing, loading out and maintenance. Not quite two tons are produced per man-hour of labor.

PRODUCTION

(Continued from page 86)

some real production edges. Labor costs in the processing plant are less than half of our union scale—well over ½¢ per pound advantage—plus cost-cutting volume we cannot hope to match. This lower labor cost extends throughout the industry—labor for loading, hauling, growing and construction. Lower land values are significant in original investments as well as lower equipment costs. Lower feed costs due to transportation advantages are reflected in reduced chick prices as well as less feed cost per pound of meat. More advanced integration plus larger volume has narrowed margins in the South to an extent that would discourage operators in our area. The southern states have a real need for the broiler industry in their economy, and I am sure their industry receives closer cooperation from financial institutions making the necessary credit for rapid expansion more available.

With our breaking down every cost, I feel safe in assuming the South can produce broilers at 2½ to 3½¢ less cost per pound live weight than we can. On a dressed basis this would amount to 3½ to 4¾¢ advantage per pound. Actually, the latest market news report for the year of 1960 quotes Washington prices exceeding Georgia by only 2.3¢ per pound live weight. Georgia expanded its production some 7% in 1960; Washington decreased 3%. Other southern states made equal or greater gains. Indications so far in 1961 are for a further reduction in Washington placements with an even greater increase over 1960 for southern placements.

Advantages

Our advantages, in my opinion, are as great or greater than those of our southern competitors if we make full use of them. First, of course, is the matter of transportation which equal-

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"My business has been built on complete service," says W. E. Sweat, owner of the Sweat Milling Company, Waycross, Georgia, "and the Red Rose line of feeds and supplements fits into my business perfectly.

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"I can honestly recommend Red Rose Feeds and Supplements," concludes Mr. Sweat, "to any dealer who is interested in quality, experience and service."

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ILLINOIS GRAND OPENING—Introduction of the new feed mill pictured here was an important tie-in in a Shannon, Ill., grand opening for Denton and Nellis Cherry's new Supersweet feed dealership. The day-long event attracted over 450 farmers and included the planned arrival of 10 Supersweet feed trucks carrying 150 tons of Supersweet feed for local delivery. Joe Heaton, territory manager for Supersweet, organized the grand opening.

izes at approximately 2½ to 3¢ per pound dressed weight on fryers shipped in. Assuming that our freight on feedstuffs and equipment coming in to this area would offset the freight charges on fryers coming in, we would definitely have an advantage by being in our local market with a fresh product. This fact itself has been found to be worth 1½ to 2½¢ per pound to our local retailers.

Our moderate temperature is of great economic value to our industry in the production of both eggs and fryers.

Inasmuch as our comparatively small poultry population is spread over a large area, our disease hazards are of far less significance than those of our out-of-state competitors.

The fact that we are an importing market on both eggs and fryers oftentimes allows premiums for local production.

Probably our most important advantage in the fryer industry in this state is the fact that, through the Fryer Commission, our industry has carried on the most extensive and thorough consumer acceptance program ever attempted. There is no doubt in the minds of producer, processor or retailer as to the success of this program which is the envy of every importing area across the nation.

Many more pros and cons as to who has the advantages I am sure could be mentioned without changing the picture very much, and in analyzing what has been said, I would seem to be contradicting my original statement that we have more advantages than disadvantages. This is not true IF we accept the challenges of change that I feel are inevitable and desirable.

Complete Integration

The first step necessary in accepting the challenge of change, in my opinion, is complete integration from the producer to the retailer. No longer can we afford the luxury of conflicting interests between one link of the production cycle and the other wherein one segment of the industry prospers at the expense of whoever is the most vulnerable.

There is no longer room for separate profits for hatchery, feed store, grower and processor in the fryer business. The egg business is not much different. Primary breeding is perhaps the only function that will continue to resist integration.

And, a word about integration—don't fight it, join it. Decide how you can become a partner in it. Strict vertical integration is not too likely—not soon—because of the capital requirements. Horizontal integration, on the other hand, is not only likely, it exists now to an astonishing degree in Washington when you consider how little there was just five years ago. By horizontal integration, I refer to any coming together of separate functions in the chain from feed man through producer, processor, handler and retailer. Risks are shared, volumes are stabilized, responsibility for cost control and distribution may be shared as will the expected profits from sale of the commodity to the next stage beyond the integration.

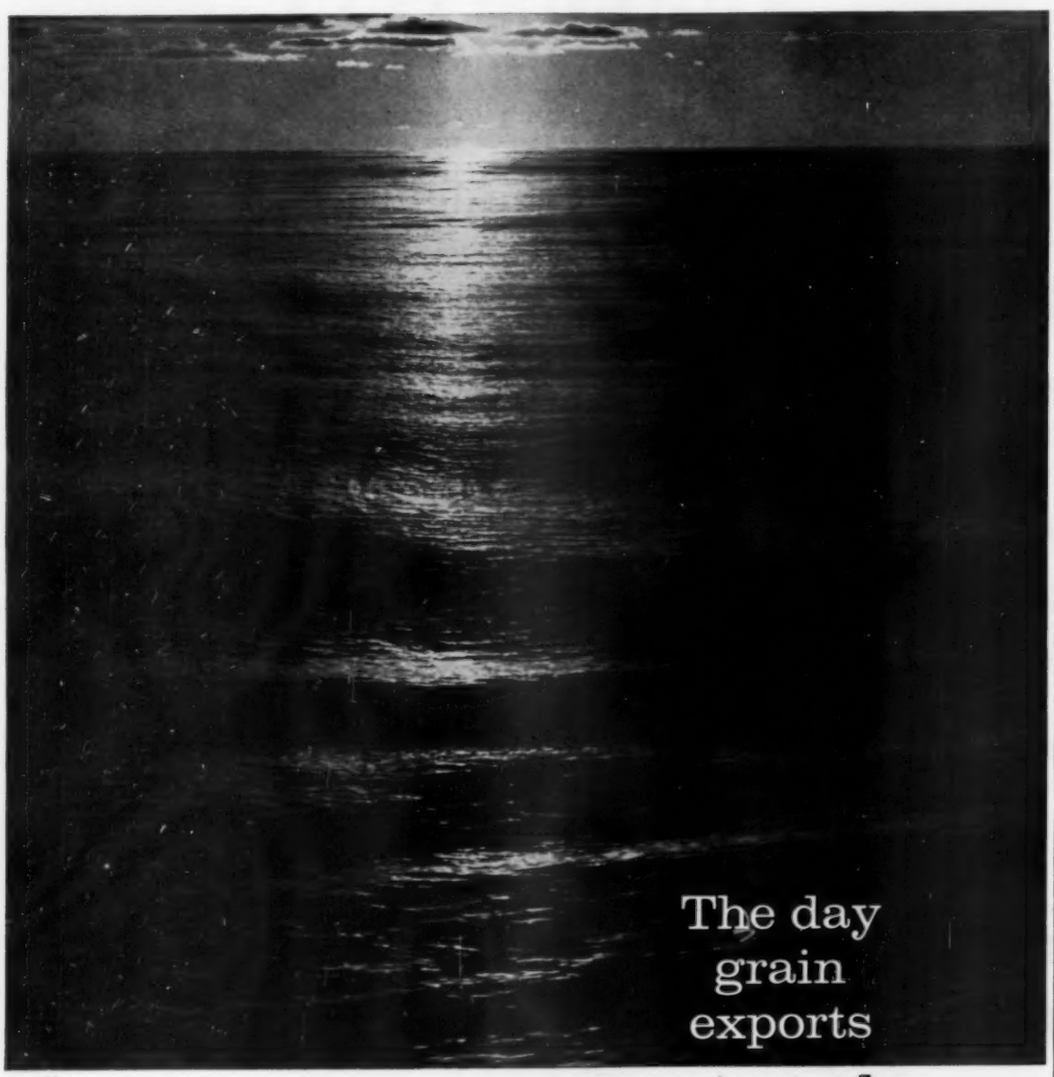
A new feed concept probably should be generally accepted now. You will no longer sell feed—you will convert feedstuffs to food products, ready for the consumer, merchandised, promoted, quality controlled, sold per specification, branded and under narrow competitive margins. This is most definite immediately in poultry meat and eggs.

Those of us interested in manufacturing and selling feed for fryers, turkeys and egg production must now become marketing oriented rather than production men—or, in addition to being production men—for it is more true than ever that a half cent of net profit per pound or dozen may still be found in the mill sweepings or the poultry litter.

But, the real point is we are going to have to see ourselves as producing for a market. If you are now selling feed to a group of independent producers who bear their own marketing burdens (assuming you make no changes), it is likely that in a few years you'll be out of the feed business, because these growers will not stay in business as separate units with the possible exception of a few who can expand and create their own feed operation. They must be integrated into a production unit sufficient to supply a chain of stores or a plant that makes definite commitments to retail customers for quality, grade and quantity on a steady offering.

Two Factors

This trend is pronounced all over America—but it has only begun. Here in Washington we have made initial merging efforts, but the combining into larger integrations will come sharply in the next few years. We are fortunate in a way out here—or perhaps unfortunate if you decry inte-



It could happen! It's happening to U.S. tobacco, which is beginning to price itself out of its once-lucrative export market. Without grain exports resulting surpluses would make today's a piker by comparison. Domestic prices would tumble. The whole farm economy would suffer.

How can we protect our markets?... and more, how can we maximize exports? Since most foreign buyers shop for the cheapest grain, we must continue to search for ways to reduce the price spread from producers to consumers...to keep U.S. grains competitive in the world market.

Farmers are pressing for more efficient yields to lower costs. Elevators are utilizing the efficiency of the private grain trade. And companies like Continental are stepping up marketing and research to find lowest cost ways to deposit the fruits of American Agriculture on foreign soil. This teamwork assures an ever-widening and profitable export market for all of us ...farmer, elevator and grain company.

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gration—but nevertheless there are two factors that push us into integration:

First, we are geographically and economically separated from many competing areas. Transportation costs on finished products do provide an umbrella—even recognizing that we are somewhat penalized on feedstuffs freight charges. Sales into our markets are made at long range. Personal relationships so valuable in selling are quite thin between Arkansas and Washington. Contacts are infrequent because handlers there do not service and stay in this market. Local retailers do not enjoy this fact. Local retailers want local produce—for example, fryers.

Secondly, we are a rapid population growth state with a restricted metropolitan area to house these added consumers. This situation lends itself to aggressive integration for intensive service. All business is local—local suppliers can out-compete imported poultry and eggs by enterprising service and acceptable quality standards, if the feed man, grower and processor or handler share equally in the responsibility of this service and share a proportionate and reasonable profit.

What about growth of our market? Estimates by the Seattle Chamber of Commerce, actually lower than the census predictions, indicate a population of 3,594,000—up 22% by 1970.

Lower production costs can recapture the portion of our markets now being supplied by imports.

Field Service

From what I have indicated up to this point, it could be assumed that our problems will all be solved if only we integrate and do an outstanding job of merchandising the end product. Nothing can be further from the truth as illustrated by many of our flock records and I assume other companies' similar experiences. Rather, the reverse is true in my opinion, and no integrated operation has a chance of survival in either eggs or broilers unless the farm management is as good as, or better than, that of its competitors.

In the past, the field serviceman has been used as a sales tool for the feed industry. No longer is this true. He is now your production manager and he had better be trained for the job as carefully and diligently as you trained a production manager for your mill operation in the past. For believe me, his influence on the results your customer turns in can amount to many dollars per ton, rather than the 10¢, 25¢ or 50¢ per ton savings we work so hard to achieve in our mill operations.

I have often said that I could mix feed with a scoop shovel and beat the pants off a push-button mill in an integrated operation if I had only the best growers and could come up with top results every time. I would like to illustrate with a typical field case to further bring home this point—the tremendous importance of supervision.

Grower A	9 Weeks, 4 Days
Body Weight	3.8
Feed Conversion	2.4
Point Spread	1.40

This is, I would say, a typically good producer—not really spectacular but I am sure very satisfactory in anyone's operation.

Grower B	9 Weeks, 4 Days
Body Weight	3.50
Feed Conversion	2.70
Point Spread	.80

Not good by today's standards to be sure, but I am certain these figures have an all too familiar ring to many of our ears.

I am going to assume the market price for broilers is 17.7¢ lb. Grower A's total cost with feed at $90 per ton, chicks at 13¢ and a typical 2¢ per pound contract, hauling, brooding, etc., comes to $.6728 per bird or $147.55 per ton; and, let's face it, that grower's labor cost and other costs included are as much a part of the feed cost as the labor in unloading a car of corn. They all have to be paid. At 17.7¢ lb., you, as a feed man, have retained any margin you have in $90 per ton feed. Nothing more.

How about Grower B? His total cost is $.63395 per bird or a cost of $150 per ton. Here is a difference of $2.45 per ton between Grower A and Grower B. Now we are talking about real money, but this is just the beginning. The price received is 17.7¢ lb. Grower B not only cost you more per ton but he also did not bring you in as much money for his smaller bird so you take another loss of $3.40 per ton or a total of $5.85 per ton less for Grower B than Grower A.

I think these figures bear out the statement I made earlier. No integrated feed operation can survive unless the farm management is as good as or better than that of its competitor. The big difference is on the farm.

I am sure similar cases could be related in regard to integrated layer operations. Incidentally, I haven't mentioned too much about integration in layers mainly because I am not involved personally in one. However, I feel that integration will, in a few years, be as important in egg production as it is today in fryers. It will move a little slower because of its longer production cycle, but the inherent cost-cutting advantages of the integrated production steps plus the fixing of responsibility of production cost on the last handler will not only be desirable but essential if we are to compete.

Purchase Facilities

EDMONTON, ONT.—United Grain Growers Limited, Edmonton, has purchased the physical properties of Canada West Grain Co. Limited. They include a seed plant, feed mill and elevator in Edmonton; five country elevators in the Peace River district of Alberta; two seed cleaning plants and a warehouse elsewhere in Alberta; and a seed plant and warehouses in Winnipeg. Transfer of properties is to take place Aug. 1.

J. E. Brownlee, Q.C., president of United Grain Growers, said the purchase will permit the company to establish itself in the seed and associated businesses. The officials and staff of Canada West are expected to remain with the organization.

OPEN HOUSE

GLIDDEN, IOWA — The Tyron Feed Store here offered a special discount on feed for three days during its recent open house.

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Colorado Beginning Liver Cancer Study On Rainbow Trout

DENVER—Start of a research program into the cause of liver cancer in rainbow trout has been announced by Colorado State University and the Colorado State Game and Fish Department. Among the aspects scheduled for study is the effect of a sudden change in diet due to introduction of pelleted fish food.

The program will be conducted at the game and fish department's Bellvue Hatchery near Laport. Modification of the hatchery, including installation of a water-heating system for closer control of water temperatures, is being completed for the study, according to Wayne Seaman, state fish manager.

Researchers expect no quick solution to the problem and already are preparing to extend the study two and one half to three years, it was reported.

Concentration of the research, Dr. Howard Tanner, director of CSU's fisheries research unit, said, will be on whether the cancer is transmitted by virus or whether there is a particular agent in the fish diet causing an imbalance.

Mr. Seaman said although isolated occurrences of liver cancer have been found in other species of trout, the affliction centers on rainbow trout raised under hatchery conditions.

Dr. Michael B. Shimkin, associate director of field studies for the National Cancer Institute, believes the evidence indicates the trout cancer has been caused by a sudden change in the diet of the fish due to introduction of "pelleted fish foods."

Under natural conditions, Dr. Shimkin noted, trout subsist on a high protein diet. But use of food pellets changes this and puts the fish on an "artificial" low-protein, high carbohydrate diet, he said.

PENB Booklet Presents New Product Ideas For Food Processors

CHICAGO—In this era of rapid change, the egg industry is becoming increasingly aware of the need for new products to face keen competition in the market place.

The Poultry & Egg National Board, through its new products development committee, has taken positive action to stimulate the introduction of new products by reaching food processors and manufacturers with an attractively illustrated booklet, "Profit Making Opportunities in the 60's with Eggs."

Unveiled at the recent PENB annual meeting in Chicago, the publication was prepared by the steering committee of the new products development group which was organized in 1959 to stimulate the creation of new products. It serves as a catalytic agent to provide ideas coming from university and independent laboratories and to bring these ideas to the attention of food processors and manufacturers.

Playing key roles in its preparation were R. M. Hendrickson, steering committee chairman, General Mills feed division, Hot Springs, Ark.; O. A. Hanke, Watt Publishing Co., Mount Morris, Ill.; Dr. Virgil Wodicka, Food & Container Institute, Chicago; Ralph J. Thomas, retiring PENB president, and Lloyd H. Geil, PENB general manager. They were assisted by Dr. Lawrence Darrah, Cornell University, Ithaca, N.Y., and Dr. W. J. Stadelman, Purdue University, Lafayette, Ind.

The booklet is now being distributed to key executives of food processing and manufacturing firms, from coast to coast, who are interested in diversifying their product lines and are on the lookout for new products to keep pace with competition. It represents a projection of imagination in converting the egg from its historical form into new, exciting products to capture consumer interest.

Photos and product descriptions are presented on frozen fried eggs, frozen French toast, egg cookies, chicken franks and chicken bologna, developed at Cornell University; egg dip and egg loaf, developed at PENB; orangegg, developed at the University of Missouri; egg cantonese, developed at Purdue University, and instant scrambled eggs, developed at the Quartermaster Food & Container Institute for the armed forces. The chicken franks and chicken bologna make use of meat from the hen.

In addition to product descriptions, it gives the reader general information on the $2 billion egg business, facts on the importance of new products, and background information on PENB and the new products development committee.

Poultry industry members, who know food processors and manufacturers in a position to seriously consider these new products, are urged to obtain copies of the publication by writing to PENB, 8 S. Michigan Ave., Chicago 3, Ill. The booklet is available on a no-cost basis, but, to make it as effective as possible, is being distributed only to processors and manufacturers or poultrymen who can put it in interested persons' hands.

TO BUILD NEW MILL

MARTIN, S.D.—Fred Mueller, formerly of LaPorte, Ind., has purchased land just east of the city limits for construction of a new feed mill. The 36 by 65-ft. building is scheduled for operation by July 1. The owner expects to do mostly custom work but will produce some feeds for retail sales. He will also handle a complete line of commercial feed and various other farm supplies.

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Unique Framing Used In New Feed Store

GOLDENDALE, WASH. — Unique "wood frame" construction used in the new O. C. Murdock Feed Store here has created considerable interest, according to reports.

The "wood frame" construction was designed by the University of Illinois and owner Mr. Murdock believes that through the national attention given, this type of construction could become very popular. He said he believed his is the first West Coast feed store to use such construction.

Designers say that the secret of the clear span construction lies in the small plywood gussets glued and nailed at three critical points of stress.

The 40 by 60 ft. building will warehouse over 100 tons of sacked feed which will be handled on plywood pallets. There are no overhead trusses or ties to obstruct movement, and an 18 ft. clearance is obtained in the center area. Corrugated plastic has been used to allow almost full daylight lighting in the interior, and corrugated steel gives strength and fire protection, it was stated. Material costs are said to be from one to three times less than for conventional structures.

Alfalfa Conference Planned for July 27

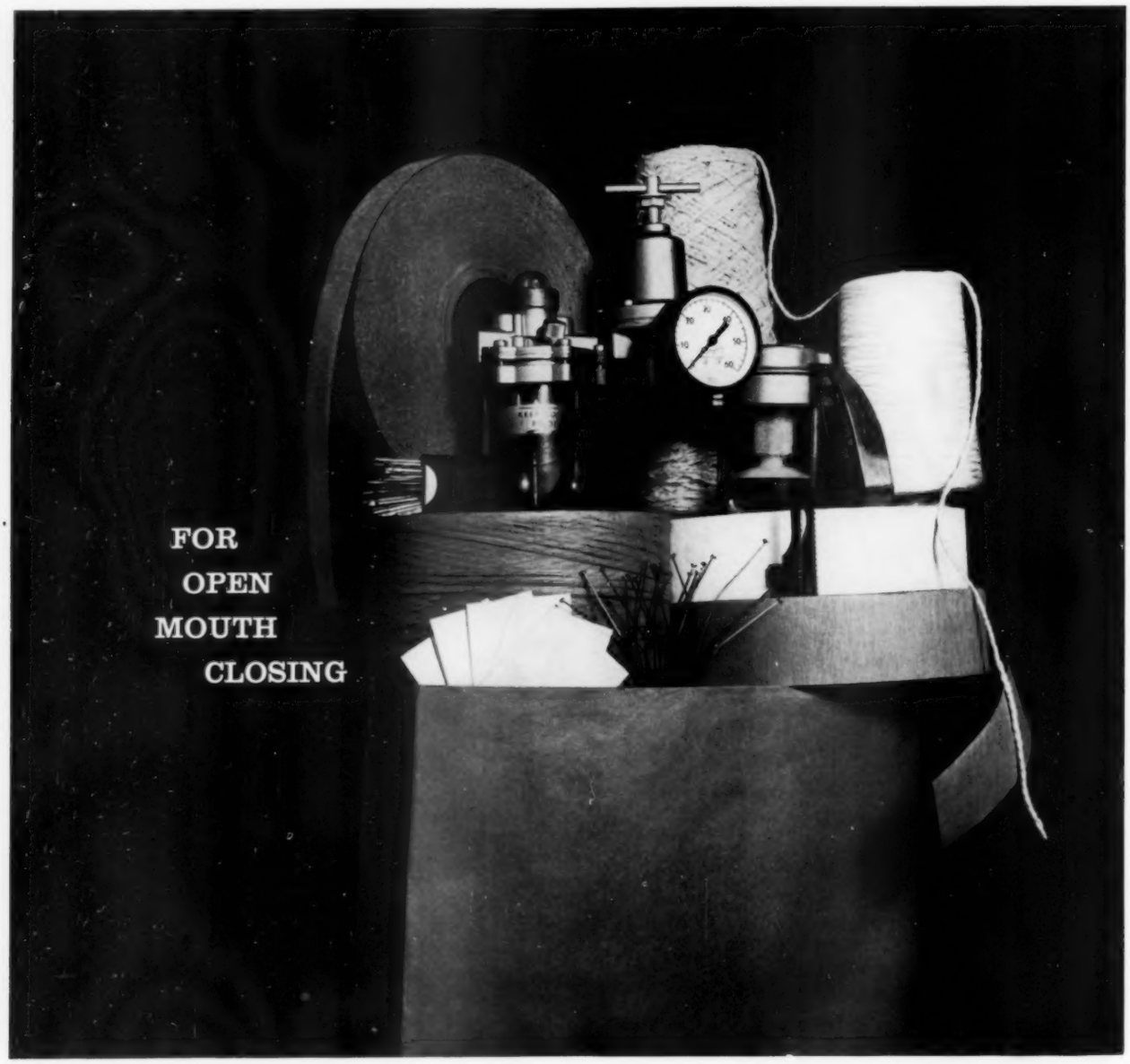
ALBANY, CAL.—New developments in forage research and in production and uses of processed forages will be discussed at the 7th Technical Alfalfa Conference to be held here July 27.

Co-sponsors are American Dehydrators Assn. and the U.S. Department of Agriculture's Western Utilization Research and Development Division.

Research and industry men will confer at Western Regional Research Laboratory, USDA, Albany 10, Cal., headquarters of the Western division. M. J. Copley, division director, said all who are interested in forage processing and forage research are welcome. In the past, he said, 75 to 100 producers, processors and experiment station people have attended and participated.

The program is being developed by G. O. Kohler, chief of the division's field crops laboratory, and Joe Chrisman, executive vice president of American Dehydrators Assn., Kansas City.

Programs will be available about a month in advance of the meeting and will be mailed to all who request them, Mr. Copley said.



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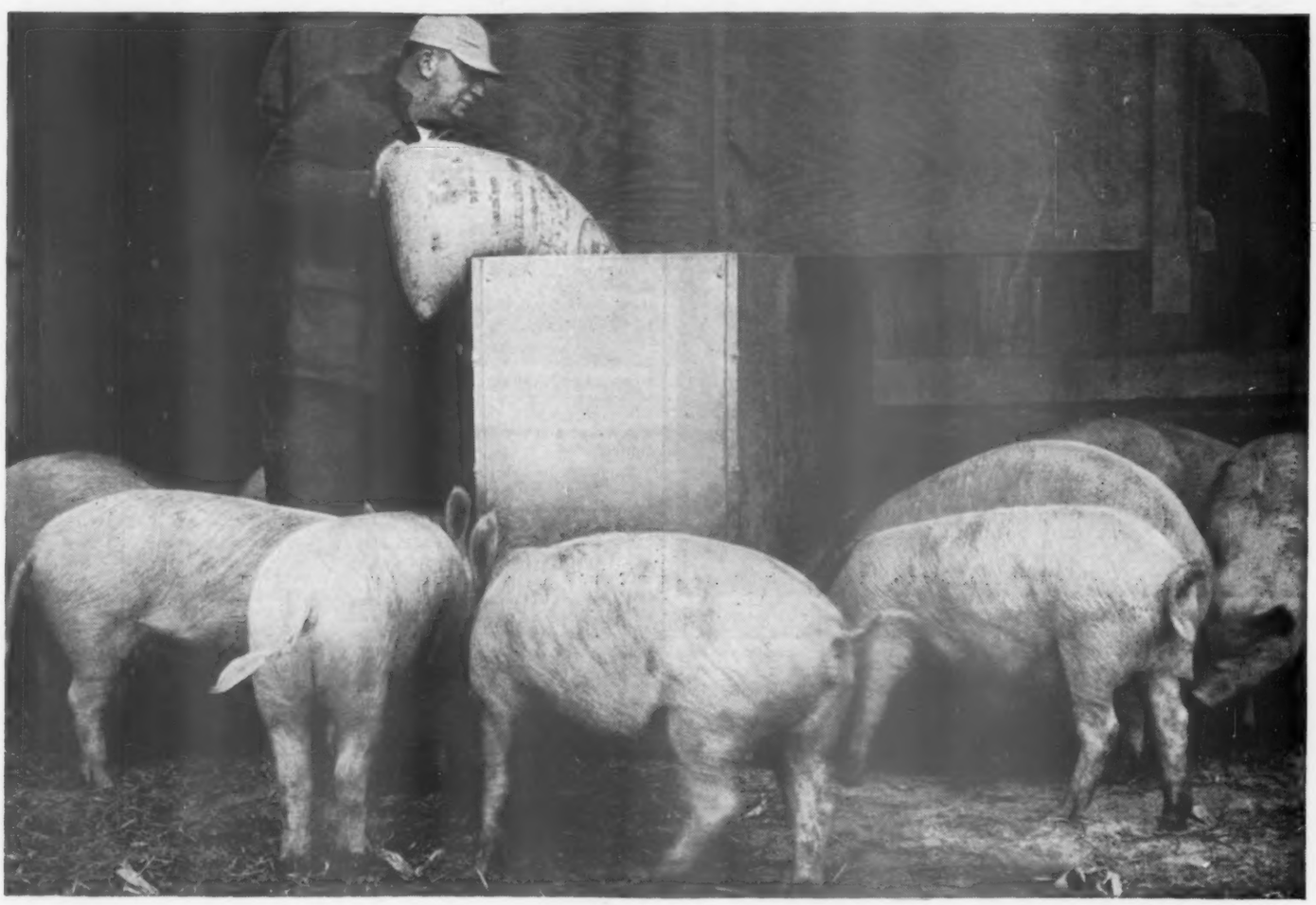

There are several products that will help prevent or treat outbreaks of scours (bacterial swine enteritis).

But, in all but one, the ratio between cost and effectiveness is out of line. The single exception is PRO-STREP.

PRO-STREP, an effective combination of penicillin and streptomycin, will help prevent scours at a lower cost than any other single antibiotic—narrow- *or* broad-spectrum! And, that's not all. PRO-STREP also helps stimulate appetites, promote growth and improve feed efficiency.

University tests have repeatedly demonstrated the value of a combination of penicillin and streptomycin in fortifying swine rations. The majority of published reports on this combination have been based on PRO-STREP.

That's why more and more progressive feed mills throughout the country are switching to PRO-STREP. What they want is what you want . . . an effective combination of antibiotics that can promote growth and help prevent "necro" at a lower unit cost. Merck Chemical Division, Merck & Co., Inc., Rahway, New Jersey.

The Best Antibiotic Combination... **PRO-STREP®** MERCK

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New Swift Mill Provides Flexibility and Efficiency

Flexibility, economy and compactness for efficient control and operation—these were among the things sought in the new Swift & Co. feed mill at Mendota, Ill. And these advantages have been realized in the operation of the new plant.

S. M. Lorimor

Operations recently got under way at the new mill at Mendota, according to W. J. Chapin, head of the firm's general feed department at Chicago.

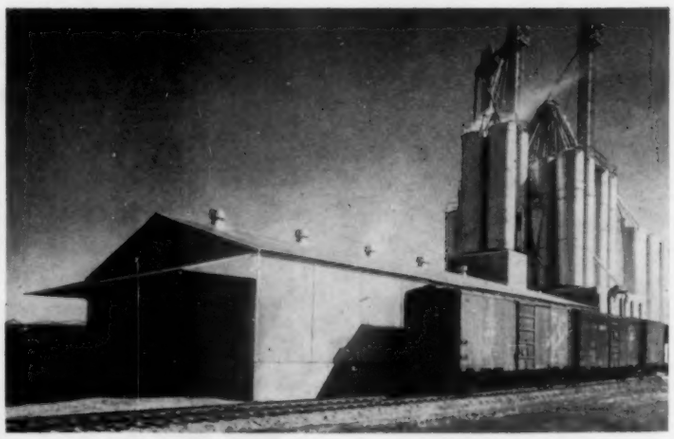
Construction of the modern mill was started last July. It is located on a seven-acre tract just outside of Mendota.

The manager of the mill is S. M. Lorimor, formerly manager of Swift's mill at Forest Park, Ill. This unit was closed last December.

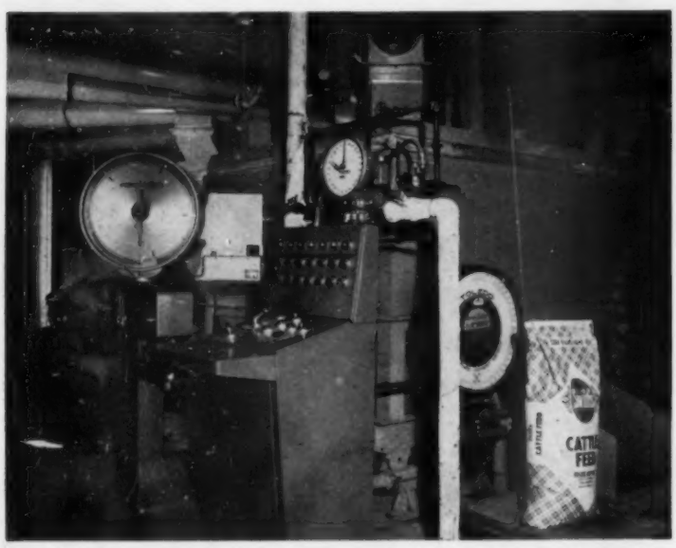
Mr. Lorimor points out that the mill is manufacturing a full line of feeds, pellet and mash, bagged or bulk. The unit will serve Swift dealers in Illinois, Wisconsin, Indiana and Michigan.

D. C. Berkshire is superintendent of the mill.

The mill, said Mr. Berkshire, is designed to produce about 80 to 100 tons per 8-hour shift of a full line of feeds, including concentrates and complete feeds. There is "push button"-type proportioning from 16 bulk ingredient bins into a 2-ton scale hopper.



The new Swift & Co. feed plant at Mendota, Ill., with the metal-covered warehouse in the foreground and bulk ingredient, bagging and other bins in the background. The warehouse is attached to a concrete block mill building.



This picture shows a Fairbanks-Morse batch scale, feeders and formulation control panel for 16 ingredients and the automatically controlled addition of Calogen. Control also is provided for discharging the batch scale, mixer and surge bin. The proportioning system involves use of a streetcar-type lever which is turned to select the bin and lifted to run the screw feeders to obtain the desired weights of the various ingredients.

The plant was engineered and constructed by the Archer-Daniels-Midland Co. equipment division, Kansas City.

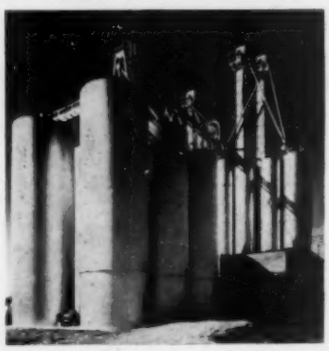
Working together on the planning and design were the ADM engineers, Mr. Berkshire and Swift engineers at Chicago.

The batch-mixing plant was designed to provide efficient manufacture of quality-controlled products, it was pointed out.

Mr. Berkshire explained that three major factors provided in the design were: (1) Flexibility; (2) elimination of "unnecessary expense" in facilities; (3) compactness for better use of manpower and better supervision and control.

Facilities include a one-story, steel frame, metal-covered warehouse, attached to the concrete block mill building. There are elevated steel tanks for ingredients, plus bulk storage tanks at grade level for major ingredients.

There are 16 holding and work bins, each of which has a capacity of about 40 tons, over the mill building. The plant also has the six large outside storage tanks, with a capacity of 100 tons each, plus four bins for bulk finished feed, four bins above the bagging lines, pellet mash bins, grinding bins, and four separate liquid tanks.



An exterior view of the Swift plant showing part of the six large storage tanks on the left, plus tanks over the mill building.

Product Flow

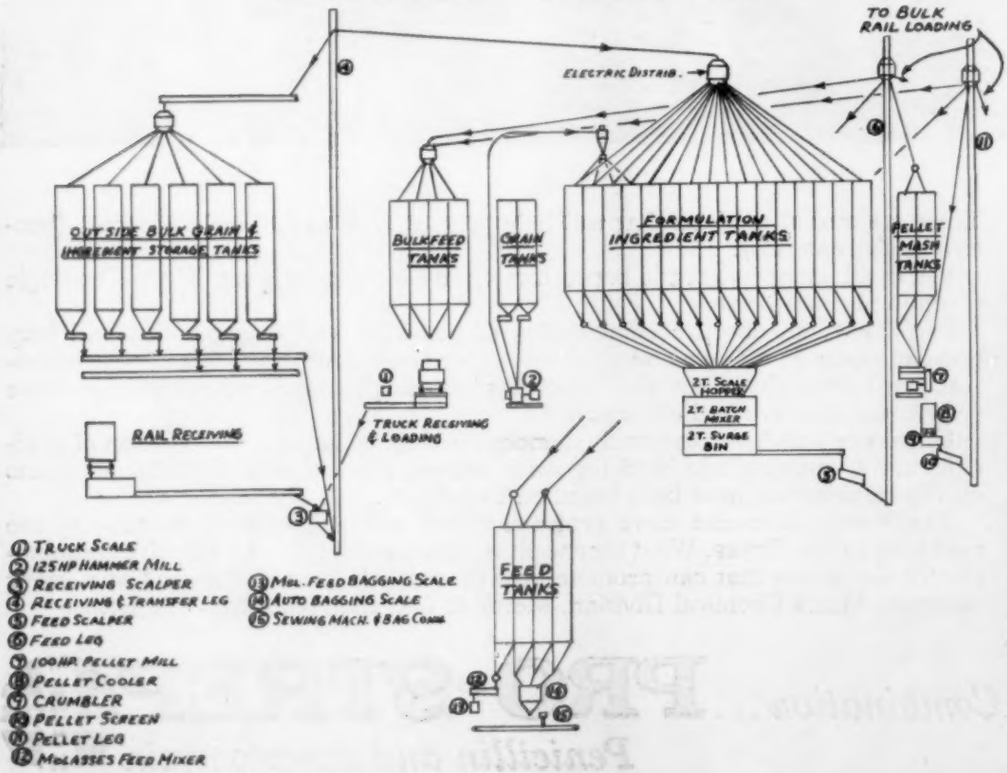
Mr. Lorimor points out that the flow of product through the mill has been made simple and clear cut, to permit the most efficient, economical production.

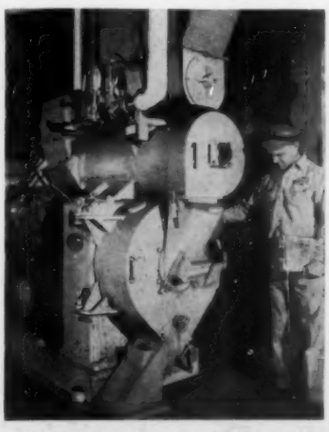
Normal operations will find all functions, including receiving, processing, bagging, warehousing, etc., handled with about 10 men, and the labor requirement is expected to be less than 1 manhour per ton.

The mill work area is 50 by 50 ft. All operations are readily run, supervised and controlled with efficient use of manpower in this area, Mr. Berkshire noted.

Incoming bulk ingredients are received by truck, box car and hopper car. A truck dump and a power shovel are used in unloading. All materials received are scalped before being elevated and sent through remotely controlled distributors into the ingredient tanks over the mill or the outside bulk storage tanks. Material in the outside storage tanks is transferred

Flow Diagram, Swift & Co. Feed Mill, Mendota, Ill.

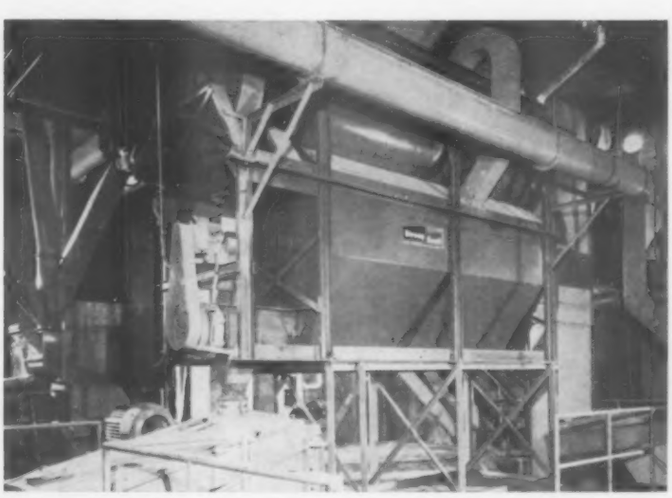




Pellets are made on a 100 h.p. California pellet mill which includes provision for automatically controlled molasses injection.

The Swift mill's warehousing facilities, where pallets and lift trucks are utilized.

D. C. Berkshire, superintendent of the Swift mill at Mendota, examines the motor control center. All electrical controls in the mill are circuited through this board. Space has been allowed for possible future expansion.



In the lower level of the mill, a two-ton Strong-Scott ribbon mixer with two-ton surge bin is installed. Mixed feed from this unit is put through a scalper. From this point mash is elevated to bins above the pellet mill, molasses mixer, bagging bins or bulk loading bins.

The bagging line includes a Richardson duplex scale. After a bag is filled it moves on a belt conveyor to the stitcher which uses a Union Special head. Fork lift trucks are used to handle bagged feeds.

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by drag-type conveyor and elevator to the holding and work bins in the proportioning system.

Through proper coordination and inventory control, the 40-ton bins for ingredients work out satisfactorily.

Grains go into two bins above the ADM grinder used in the plant. Draver feeders are used to control grain into the grinder, including the feeding of an individual grain or the combining of two grains.

The batching control system is rather unusual. A "streetcar"-type lever on the control board is turned to the desired tank. The operator then lifts the lever to run the screw feeder to obtain the desired weight of ingredient, as shown on the scale dial. When he releases the elevator, the feeder stops. The system has provided very exacting control of weights, officials pointed out. Formulas are shown with cumulative weights, such as 500 lb. for the first ingredient, 700 (200 lb. added) for the next, etc. Control for all 16 bins and the feeders is handled with this one lever. It makes for an efficient and precise system, the superintendent said.

The ingredients go into a 2-ton scale hopper and then into the 2-ton Strong-Scott mixer.

Fat is added in the batch mixer. A Strong-Scott molasses mixer also is used in the plant. And molasses is added at the California pellet mill in amounts up to 10%.

After mixing the feed goes through a scalper and then is elevated to bins above the pellet mill, molasses mixer, bagging bins or bulk loading bins.

A truck scale is provided for truck receiving and loading.

The mill includes three legs—receiving and transfer leg, mash leg and pellet leg.

Steam for heating and processing is provided by a 60 h.p. Continental automatic boiler.

Turkey Testing Unit Set in North Dakota

DEVILS LAKE, N.D. — Construction is underway on an $8,500 structure at North Dakota State University in Fargo, which the North Dakota Turkey Federation will build and equip as an outright gift to the experiment station to inaugurate a "random sample" turkey meat production test.

William Duke, Valley City, president of the federation, said the building will be 40 by 96 ft., insulated and equipped with an electric ventilation system and completely automatic feeding system.

General research in turkey feeding and nutrition is to be combined with the random sample tests which will be conducted jointly by North Dakota State University, U.S. Department of Agriculture and the North Dakota Poultry Improvement Board. It will be one of seven random sampling sites in the nation, according to the announcement.

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Florida Study Shows Protein Influences Copper Toxicosis

GAINESVILLE, FLA. — Florida Agricultural Experiment Station studies on the interrelationship between copper and protein level in swine have shown that as protein level increased, copper toxicosis was less pronounced, according to Dr. H. D. Wallace and J. T. McCall, animal husbandry and nutrition department, University of Florida.

Dr. Wallace and Mr. McCall said that in 1955 researchers in England observed that daily gains of growing pigs were significantly improved by feeding 250 ppm of supplementary copper as copper sulfate. They noted that this observation has since been corroborated by other European studies. They said that the amount of copper fed represents a level many times higher than that normally assumed to be required nutritionally. They observed that it is "quite likely that the beneficial effect is due to antibacterial activity of the copper."

They stated that studies were initiated at the Florida Agricultural Experiment Station in 1956 to determine if high level copper supplementation would improve the performance of growing pigs fed corn-soybean meal rations typical of the formulae used in this country. They pointed out that results have not confirmed the European work. "In fact, they show that 200 ppm and above have dangerously reduced hemoglobin levels and failed to produce beneficial effects on gain and feed conversion," they said. "The maximum level appears to be about 100 ppm, but even this level has

TABLE 1. Influence of Protein Level on Copper Toxicity in Growing Pigs

Treatment group	1	2	3	4	5	6
Crude protein level, %	15	15	20	20	25	25
Added Cu., ppm	0	750	0	750	0	750
Number of pigs per group	10	10	10	10	10	10
Average initial weight, lb.	56.0	55.9	56.2	56.5	56.1	55.9
Average final weight, lb.	166.0	119.6	161.5	136.2	146.0	135.7
Average daily gain, lb.	1.43	0.83	1.37	1.04	1.17	1.04
Average daily feed consumption, lb.	4.98	3.33	5.04	4.12	4.50	4.31
Feed required per lb. gain, lb.	3.48	4.01	3.66	3.96	3.84	4.14
Days on experiment	77	77	77	77	77	77

Copper effect significant ($P<.01$). Copper-protein level interaction significant ($P<.01$).

NEW FROM CPm

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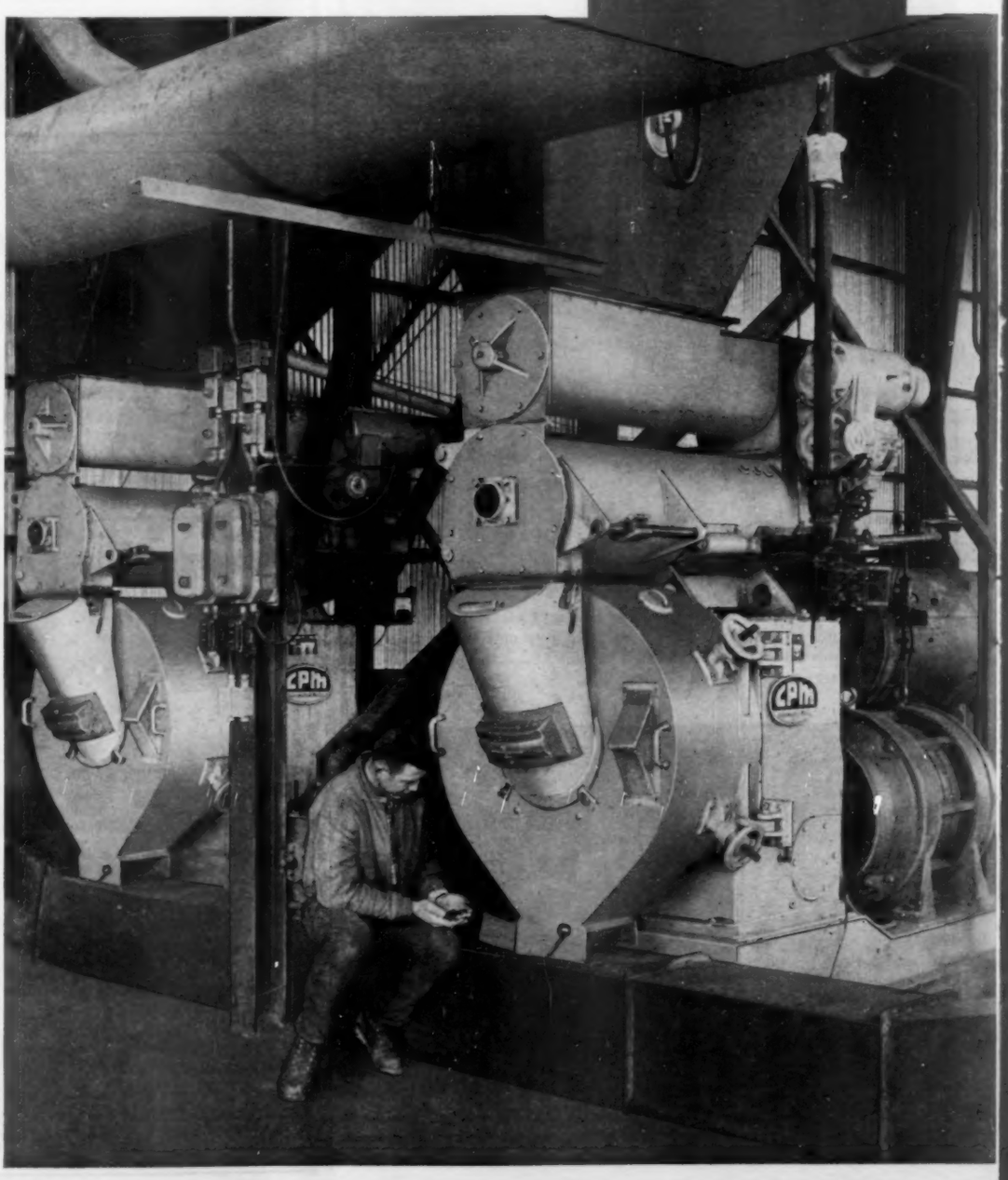

not consistently improved performance."

They commented that an attempt to determine why the copper was an effective non-toxic supplement under European conditions, but not under those in this country was undertaken.

They noted that European swine rations not only contain sources of protein quite different from those generally fed in the U.S., but the level of protein is somewhat higher. They said it was reasoned that this difference in protein level may be a basic factor in the effects observed from copper supplementation.

Report on Research

The Florida researchers' account of the experiment follows:

In this experiment 60 weanling pigs of mixed breeding were divided into 12 replicated lots of five pigs each according to weight, sex and litter. Two lots were fed on each of three crude protein levels (15, 20 and 25%) with no supplementary copper. Two lots were fed on each of the same protein levels and supplemented with 750 ppm copper. Hemoglobin determinations were made starting at the end of the fourth week and at two-week intervals during the remainder of the experiment. The rations were well fortified corn-soybean meal type mixtures.

A summary of the performance of the pigs combined as to replicates is presented in the accompanying table and the hemoglobin determinations are shown on the graph. As expected, the very high level of copper (750 ppm) proved toxic. However, a protective action due to protein was clearly evident. An analysis of the growth data showed a highly significant ($P<.01$) adverse effect due to the copper and a highly significant ($P<.01$) interrelationship between the copper and protein level. As the protein level increased the copper toxicosis was less pronounced.

It is interesting to point out also that the pigs performed better on 15% protein than on 20% protein and better on 20% protein than on 25% protein. This is in accord with other recent observations at this station using corn-soybean meal type mixtures. At the conclusion of the trial, several pigs on the copper treatments were obviously severely poisoned. One pig from treatment 2 died a few days after the trial was terminated.

Hemoglobin values show a picture very much in accord with the growth data. After four weeks on test hemoglobin values revealed the same protective action from dietary protein. However, this became less apparent as the experiment progressed and when terminated all groups on the copper rations were quite deficient in hemoglobin compared to the untreated groups.

Work at our nutrition laboratory has demonstrated that high levels of protein in the form of casein alleviated copper toxicity in rats. It is well established that low protein intakes augment the toxicity of certain other elements such as molybdenum, cobalt and selenium. The toxicity of these elements has been reduced significantly by dietary supplementation with methionine. It is quite conceivable that methionine or other individual amino acids were responsible for the reduction in toxicity in this study through the formation of copper-amino acid chelates.

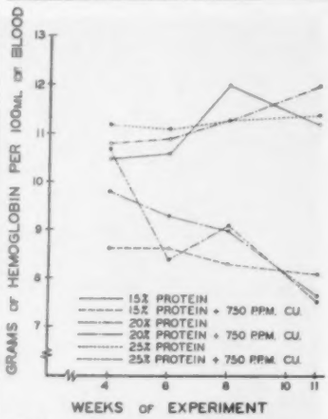

FIGURE 1. Relationship of Protein Level and Copper Toxicosis as Reflected in Hemoglobin Values

Eli Lilly Reports Drop In Sales, Net Income

INDIANAPOLIS, IND.—Eli Lilly & Co.'s estimated sales for the first quarter of 1961 were $48.4 million, compared with $49.2 million during the first three months of 1960, the company announced.

Estimated net income for the period was $5.6 million, compared with $6.8 million during the corresponding period last year. Earnings per common share were 70¢; they were 85¢ in the 1960 quarter.

Eugene N. Beesley, president of the company, said that business showed an encouraging upturn in the parent company and subsidiary operations during March. The sales increase was aided by the addition of several new products. Good first-quarter sales were reported outside the U.S. and by Corn States Laboratories, Inc., a subsidiary which manufactures veterinary products.

Elanco Products Co., a division of Eli Lilly & Co. which markets agricultural, home and industrial products, set a sales record for the first quarter. "Although it is too early for any long-range evaluation, the sales of our new Greenfield lawn and garden products for crab grass control are exceeding estimates," Mr. Beesley said.

Divisions have been established at Lilly's Canadian and Mexican subsidiary companies to market agricultural and industrial products in these areas, and steps are being taken to promote the sale of Elanco products in Europe.

NEW EQUIPMENT

CHICAGO — Harry Karsgaard and Vernon Rabideau, co-managers of the Ritchie Grain Co., Wilmington, Ill., have announced the addition of new service facilities. Included is a 75 h.p. Blue Streak mill.

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California proudly introduces an important addition to its line of pellet mills: the CPM Model "200" — a special-duty mill that has been designed, engineered, fully field tested, and is now offered to the industry as another CPM first.

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Featuring the exclusive CPM Full Power Gear Train Drive, standard on all CPM models, the Model "200" delivers to the pelleting die *all* the power you pay for. Not two-thirds. Not three-fourths. But the full 200 horsepower output! Here is your assurance not only of greatest operating economy, but also of maximum safety, long and trouble-free service life.

Whether your special-situation requirement calls for a Model "200" or a much smaller machine, you'll find that the complete CPM line offers you the widest, finest choice ever available. Now is a good time to see the man from CPM. His expert help and assistance may well mean a more highly profitable feed production program for you this year and the years ahead. *Remember: More California Pellet Mills are sold today than all other makes combined!*

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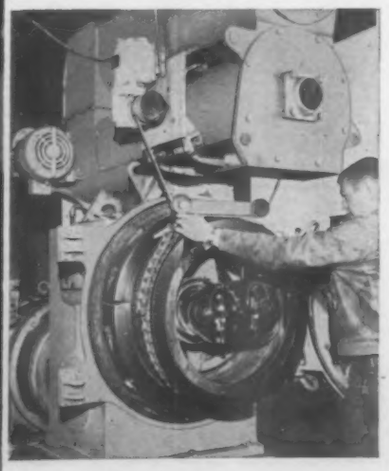
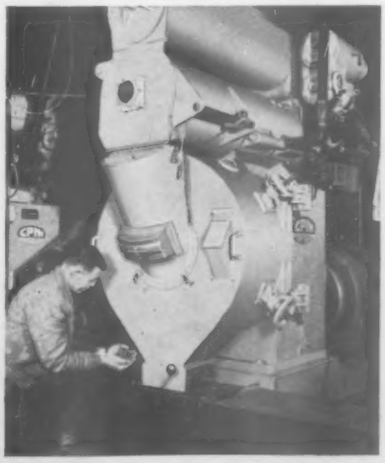
See the Model "200" at the NFIS, Chicago, May 7-10, Booths 106-109!



Look at the size of the pellet die, shown here being positioned on the Model "200"! Die is more than twice the size used on largest standard model pellet mills today, yet is easily changed by means of built-in electric hoist.



Charles "Ozzie" Harris, manager of Delta Dehydrating Corp.'s Clarksburg, California plant, checks pellet run on CPM Model "200". This pellet mill is operated 24 hours per day during peak production periods, producing both alfalfa and beet pulp pellets in ¼" size.

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Early-Weaned Lambs In Test Gain Well, Have Few Parasites

URBANA, ILL.—The University of Illinois has reported that tests undertaken to help farmers market lambs early show that early-weaned lambs can make satisfactory gains and have fewer internal parasites with no increases in death losses.

The university says that marketing early has advantages in that prices and lamb quality are high. It was also mentioned that marketing early avoids problems resulting from hot weather, insects and declining pasture quality.

The tests used lambs weaned at six and nine weeks of age. "Weaning at such an early age did not increase death losses," the report said. "In fact, it may have reduced them. Of the 76 lambs used, only two died after weaning.

"Before weaning, lambs were creep-fed the same ration they were self-fed after weaning. Fed in meal form, it contained ground shelled corn, high-quality ground mixed hay, soybean meal, vitamins and minerals.

"Lambs made satisfactory gains immediately after weaning as well as during the entire study. Gains for all lambs, regardless of age at weaning, averaged almost ½ lb. daily per head. Previous tests have shown that lambs have fewer internal parasites when they are not allowed to graze with ewes. This test confirmed the earlier tests.

"Early weaning also has other advantages: (1) Eliminates the need for high-quality legume-grass pasture, (2) allows maximum gains, (3) results in more uniform lambs, (4) makes lambs easier to handle and (5) lets ewes run on poorer pasture, since they are not milking.

"On the other hand, early weaning can also increase labor and equipment costs and out-of-pocket costs for grain and supplements. And ewes can develop udder trouble. In these tests, however, only one ewe out of 250 had such trouble. Workers reduced the ewe rations in quantity and quality shortly before and after weaning the lambs.

"Early weaning does not use as much roughage as other systems of ewe and lamb management. This may be either an advantage or a disadvantage, depending on how much roughage is available."

The tests were conducted at the university's Dixon Springs Station.

INSTALL NEW EQUIPMENT

BEDFORD, IND.—Facilities representing an investment of $65,000 have been installed at the Lawrence County Farm Co-op Assn., Inc., here. The new equipment includes two dump pits, truck hoist, eight grain bins, a 50 ft. 50 ton scale and two 3 ton Prater mixers.

Two Regional Co-ops Adopt Incentive Plans To Increase Feed Sales

By Special Correspondent

HARRISBURG, PA.—Two eastern regional cooperatives have adopted incentive plans aimed at increasing feed sales effort and promoting patron interest through intensified sales attention. The cooperatives are the Pennsylvania Farm Bureau Cooperative Assn. and Southern States Cooperative.

Each organization has announced a three-point plan for recognizing sales results.

Southern States Cooperative will award prize or travel points to its agencies at a rate of 200 points for each ton increase in formula feeds over the corresponding period last year. The leaders in each Southern States region will be given an educational tour of the Cooperative Swine and Beef Cattle Test Farm at Lexington, Ill.

The third point in the Southern States program calls for increased chick booking with an eye toward eventual increased broiler and turkey feed volume. This effort has been designated as the "Million Club," with 10,000 chicks set as the goal for admittance. One thousand travel and merchandise points will be given to the agencies attaining this goal. Additional points will be awarded in proportion to extra increases.

Cash Incentives

The Pennsylvania Farm Bureau program is based on offering sales personnel cash incentives.

After setting quarterly goals for retail outlets, cash bonuses will be awarded for attaining those goals. An additional bonus will be sent to retail affiliates that exceed the goal at the rate of $1 per ton in excess of the quarterly goal.

The third point in the Pennsylvania Farm Bureau incentive program places an incentive on the preceding incentives.

A special fund based on mixed feed tonnage for a nine-month period will be shared with the retail outlets. The amount the retail outlet receives from the fund will be on a pro rated basis among successful stores that have gone over the goal as compared to the total sales of all retail stores.

Dawe's Labs Names Territory Manager

CHICAGO — Appointment of Jay Hebert, Jr., as territory manager for Dawe's Laboratories, Inc., has been announced by Ken Simms, Dawe's southeastern regional sales manager.

Jay Hebert

Mr. Hebert will represent the company in the sale of its feed additives in Florida, southern Alabama and southern Georgia. He is a graduate of Louisiana State University and formerly represented American Cyanamid in agricultural products sales and service.

NEW GERMAN FACILITIES

DUSSELDORF, GERMANY—Construction of a new feed mill for continuous mixing operation with a capacity of 27.5 tons per hour is under way here for the Deuka Feed Milling Co. Electronic controls with punch card production orders will be used. Located on the Rhine river, the new mill will have unloading and loading facilities for barges, railroad cars and trucks. Storage capacity will be 11,000 tons. Contractor is MIAG.

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PRIZE FOWLS PANIC; FARMER AWARDED $750

BALTIMORE, MD. — A federal judge concluded recently that a chicken farmer suffered $750 worth of damage when military helicopters swooped low and caused his prize-winning fowls to panic.

In his opinion, Chief Judge Roszel C. Thomsen decided that a half dozen chickens smothered and others were scratched enough to be valueless. He awarded Harold Weisberg, operator of the Coq D'Or Farm in Montgomery County, $750 for the eggs that were ruined and the chickens that were lost.

Other than the loss of chickens and eggs, Judge Thomsen said he found that the plaintiff failed to show any additional injury or damage claimed in the suit under the Federal Tort Claims act.

2 Heisdorf & Nelson Vice Presidents Named

KIRKLAND, WASH.—Dr. Cecil F. McClary and Dr. Donald V. Zander were named vice presidents of Heisdorf & Nelson Farms, Inc., at a recent board of directors meeting, according to announcement by Arthur Heisdorf, president, and Gerald Curea, general manager of the firm.

Dr. C. McClary

Dr. McClary worked as a consultant geneticist with Arthur Heisdorf in 1954, and joined the H & N organization on a full time basis as a research geneticist in 1956. A native of Louisiana, he received his B.S. and M.S. degrees from Louisiana State University. His Ph.D. degree was from the University of California at Berkeley.

His recent work includes research on the effect of light control on growing chickens, and its subsequent effect on birds as layers. He has developed the H & N "Step-down, Step-up" lighting program.

Dr. Donald V. Zander is director of the H & N health research program. In 1941, he received his B.S. degree in poultry husbandry from the University of California.

Later, he transferred to Colorado A&M College where he earned his M.S. degree in poultry nutrition, and also his D.V.M. degree. His Ph.D. degree in comparative pathology was from the University of California at Davis.

Prior to joining H & N in 1955 to establish and direct the H & N laboratory and research program, Dr. Zander had a full time appointment in the department of poultry pathology at the University of California.

Processing Firm Sold, Soy Plant Set

ST. CLOUD, MINN. — The name and assets of a cooperative firm organized here last year to establish a soybean plant have been sold to a new corporation formed by St. Cloud, Willmar, Minneapolis and St. Paul business men.

Plans of the new Central Minnesota Processors, Inc., call for spending about $500,000 to develop buildings on a site near here, purchased from Liberty Granite Co., into an 80 ton per day soybean extraction plant.

C. E. Root, formerly associated with Kodiak, Inc., St. Paul, and new president of the firm, said that construction should be completed by September.

Ralph H. Parker, III, Minneapolis attorney, is secretary of the new corporation and James P. Penn, president of J. P. Penn & Co., Minneapolis securities dealer, is treasurer.

IMC Reports Earnings

CHICAGO—International Minerals & Chemical Corp. reported net earnings of $2,358,000 or 90¢ per share on an average of 2,501,478 common shares outstanding for the third quarter ended March 31, compared with $2,371,000 or 93¢ per share on 2,444,592 shares in the same period a year ago.

Earnings before taxes for the third quarter were $2,817,000 compared with $2,981,000 in the same quarter a year ago, according to T. M. Ware, president.

Sales were $35,052,000, compared with $34,540,000 in the third quarter of fiscal 1959-60.

For the first nine months of the current fiscal year, net earnings were $3,941,000 or $1.46 per share compared with $4,129,000 or $1.57 in the first three quarters of 1959-60. Sales were $88,314,000, compared with $83,128,000 in the same period a year ago, the announcement said.

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How Does Trade's Credit Management Rate?

Survey Conducted by National Association of Credit Management Answers That, Other Questions About Feed Man's Credit Policies

By Fred Tunks
Feedstuffs News Editor

When it comes to collecting outstanding accounts, the feed industry lags behind most other manufacturing industries in the U.S.—so it is indicated by a survey conducted by the National Association of Credit Management, New York, for Feedstuffs.

This survey — which involved the mailing of a credit survey questionnaire in March to 131 feed and seed industry members of the credit association and resulted in 39 usable replies—verifies what feed men have feared: The credit (or bad debt) loss of the feed industry is high compared with other industries.

While the median bad debt loss of 18 manufacturing industries, excluding the feed industry, was 0.034% of total sales in 1960, the survey conducted for Feedstuffs shows a median bad debt loss of about 0.2% for the feed industry in 1960. Credit loss percentages reported by respondents representing the feed industry ranged from nothing and 0.001% to 4.66%.

Statistical data compiled by the Credit Research Foundation, Inc., which is affiliated with the National Association of Credit Management, shows that of 18 major industries, only appliance manufacturers had a median net bad debt loss as high as 0.2% in 1960.

Some Consolation

Although the feed industry's credit record is relatively not so good, there is some consolation in that the survey indicates bad debt losses probably will be no higher in 1961. Twenty-two respondents said they expect their credit losses to be about the same in 1961 as in 1960. Seven said 1961's rate would be higher, while eight answered that they expected a lower loss.

The feed industry questionnaire asked: "Is your ratio of receivables to sales volume higher or lower than a year ago at this time?" Answers to this question did not indicate a concrete trend because they were fairly equally divided among the answer choices. The score was 11 for higher, 12 for lower and 13 for about the same.

The distribution of answers was much the same for the question which asked whether payments from customers had improved or become slower. Response to this question did indicate, however, that for the industry as a whole customer payments are running on a par with past periods.

Another good sign was indicated by the survey. Twenty respondents said they did not expect financed sales to grow in proportion to total sales, while half that many said the proportion would increase.

The survey covered various sizes and types of feed operations. (See question below for information on sales volume.)

Survey results also showed these credit policy situations within the industry:

—More feed manufacturers offer discounts for payment within a specified time than do not.

—More do not charge interest on past due accounts than do.

Questions, One by One

Further analysis of the answers to the 16 questions asked in the feed industry credit survey follow (also see Tables 1 and 2):

1. Roughly, how much of your business is devoted to feed operations?

Of 37 firms who answered this question, 15 indicated that their entire business (100%) was devoted to feed operations. Eight reported percentages within a range of 90 through 99; four listed percentages in the 75-89 range; seven listed figures from 50 to 74%; two indicated their feed operations amounted to about 40% of total business, and one said its feed operations accounted for only 1%.

This information indicates that the survey is fairly representative of the feed industry. Only three of the 37 firms answering the question reported that their feed business constituted less than half of total volume.

2. Do you offer discounts for payment within any specified time? If yes, please describe your terms.

Twenty-one respondents answered this question "yes," 17 answered "no" and one checked both the "yes" and "no" boxes on the survey questionnaire.

Seven of the firms which answered "yes" reported that their discount rate was 2%, but the periods over which this discount is extended varied from 7 to 10 to 14 days.

A discount rate of 1% was reported by three firms, with the discount applicable on cash payment or on payment within 10 days. One firm, which reported an annual dollar sales volume of $5 million, said it discounted 1% on feed paid for within 10 days or discounted $2 ton on wholesale purchases.

Other feed firms represented in the group of 21 who answered the question in the affirmative discount on a basis of so much per ton or hundredweight if the account is paid within periods ranging from 7 to 30 days.

A firm with annual sales of about $25 million responded with this policy statement: "$1 ton if paid in 7 days, provided all previous invoices are paid." Another said: "5¢ cwt. 14 days on manufactured feed."

A respondent representing a firm with annual sales of $1,250,000 said the "discount" which it offers is in the form of savings stamps.

3. What was your credit loss in 1960, as a percentage of sales?

Thirty-five respondents answered this question with a figure, and credit loss percentages ranged from nothing and 0.001% to 4.66%. The median was 0.2%.

Nine firms reported credit loss percentages less than 0.1% and eight listed a figure less than 0.2%. Four were grouped at the 0.5% level and six firms reported percentages of 1% or between 1 and 2%.

The firm which said it had no credit loss in 1960 devoted 90% of its business to feed operations and recorded a sales volume of $2,200,000 during the year. This same firm has a discount policy of 2% on accounts paid within 7 days and does not charge interest for past due accounts —but it sold a "limited" volume of feed under financing arrangements.

In contrast, the firm which said it had a credit loss of 4.66% in 1960,

TABLE 1. Answers to Question No. 5—'What Credit Terms Do You Have in Force on Contracts with Turkey Growers, Egg Producers, Hog Growers, Broiler Growers and Cattle Feeders?'

	Turkey Growers	Egg Producers	Hog Growers	Broiler Growers	Cattle Feeders
(1)	26 weeks on heavy turkeys.	Pay back beginning seventh month to 14 months from hatch date.	120 days on supplement.	Pay feed cost when flock is sold.	——
(2)	——	2%—7 days, net 30; 6% interest over 30.	2%—7 days, net 30; 6% interest over 30.	——	2%—7 days, net 30; 6% interest over 30.
(3)	6% per annum full payment on sale.	——	6% per annum full payment on sale.	6% per annum full payment on sale.	6% per annum full payment on sale.
(4)	Poults and feed 6 months.	——	Six months.	——	Six months.
(5)	Finance contracts 6%.	Finance contracts 6% and 10-month repayment.	Both finance for complete feed and service charge on concentrates.	Finance contracts with 18c lb. guarantee.	Service charge on concentrates.
(6)	30 days.	30 days.	30 days.	30 days.	30 days.
(7)	Six month finance.	Six month finance, 6 month payback.	Six month finance.	Nine week finance.	Various finance.
(8)	10c cwt. 14 days on cash buyers (pay when turkeys marketed on finance).	10c cwt. 14 days (finance buyer loses 5c cash discount and pays 6% interest).	10c cwt. 14 days (finance buyer loses 5c cash discount and pays 6% interest).	Pay when fryers marketed. (Finance buyer loses 5c cash discount and pays 6% interest).	5c cwt. 30 days.
(9)	——	Net 30 days.	——	——	Net 30 days.
(10)	——	26 week finance and 26 week repayment.	——	——	——
(11)	Payable in 9 months.	Payable 20% per month on the 8th, 9th, 10th, 11th and 12th month.	Payable in 6 months.	Paid direct to us by processor when sold.	Payable in 12 months.
(12)	——	——	30, 60, 90 and 120 days.	——	30, 60, 90 days.
(13)	Secured by chattel — notes due when turkeys marketed.	Secured by chattel, demand notes—various installment plans.	Secured by chattel—notes due when hogs marketed.	——	Unsecured—monthly accounts.
(14)	——	30 days.	——	——	30 days.
(15)	30-day open accounts.	30-day open accounts.	30-day open accounts.	——	30-, 60-day open accounts.
(16)	No contracts, 30-day accounts.	No contracts, 30-day accounts.	No contracts, 30-day accounts.	No contracts, 30-day accounts.	No contracts, 30-day accounts.
(17)	30 days and yearly finance.	30 days; most of our accounts are integrated.	30 days.	Most of our accounts are integrated.	30 days.
(18)	Payable within 30 days after slaughter.	30-day maximum.	Payment due according to feed usage.	45 days maximum for staggered operation.	None.
(19)	——	Egg checks as received.	——	On contract feeding we hold title to birds, therefore no credit terms involved.	——
(20)	Six months or whenever turkeys are sold.	Life—15 months—9 months payback plan starting 7th month.	Six months or whenever hogs are sold.	75-day TA.	6-9 months or whenever cattle are sold.
(21)	——	1%—10th prox. or net 30 days.	——	——	(Dairy) net 30 days or $2 ton 10th prox.
(22)	——	——	——	——	Net cash 30 days.
(23)	——	30 days.	——	Cash	——
(24)	100% finance poults and feed on good growers.	$1.50 per pullet, pay back 19 months.	Concentrate only $6.50 a head.	100% chicks and feed on our own program.	Concentrate only.
(25)	——	14 days.	——	——	——
(26)	None.	None.	Net receipt invoice, net 30 days.	None.	Net receipt invoice, net 30 days.
(27)	None.	None.	Up to 6 months terms.	None.	Up to 9 months terms.

TABLE 2. Here's How Feed Manufacturers Answered 6 of the 16 Questions Included in Industry Credit Survey.

Question	Higher	Lower	Same
Do you expect your credit loss to be higher, lower or about the same in 1961?	7	8	22
Is your ratio of receivables to sales volume higher or lower than a year ago at this time?	11	12	13
	Improved	**Slower**	**Same**
Compared with a year ago, have payments from customers improved, remained the same or become slower?	14	11	12
	Yes	**No**	
Do you expect that the amount financed will reach a greater portion of total sales than it did last year?	10	20	
Do you offer discounts for payment within any specified time?	21	17	
Do you make an interest charge for past due accounts?	17	21	

recorded an annual dollar sales volume of $406,941 and does not have a discount policy. But this firm is like the other in that nearly all of its business comes from feed and it does not charge interest for past due accounts.

Compared with other industries, the median bad debt loss of 0.2% indicated by this survey for the feed industry is high.

Statistical data compiled by the Credit Research Foundation shows that of many major manufacturing industries, only appliance manufacturers had a median credit loss of as much as 0.2% for the 1960 fiscal year. Textiles recorded a median bad debt loss of 0.15% during fiscal 1960 and for wearing apparel the rate was about 0.14%. Most of the other manufacturing industries, including automotive, building materials, chemicals, drugs, food products and the like reported median bad debt losses of less than 0.1%.

4. Do you expect your credit loss to be higher, lower or about the same in 1961?

Sixty per cent (22) of the 37 respondents to this question said they probably would experience in 1961 about the same rate of credit loss they did in 1960. Those who believe the rate of loss will change were about equally divided between "higher" and "lower"; seven expect the percentage to climb, while eight expect it to decline.

5. What credit terms do you have in force on contracts with (1) turkey growers, (2) egg producers, (3) hog growers, (4) broiler growers and (5) cattle feeders?

The great variety of contracts which exist between the feed man and producers of meat and eggs is apparent in the answers to this question as shown in Table 1.

6. To what extent are your financing contracts made with recourse with dealers?

Most of the surveyed feed manufacturers answered this question with "none" or "little." A few said they had no dealers, while one commented, "Our business is only with feed dealers. No financing."

Other answers to this question: "None, unless specifically provided for in special cases."

"We do no financing ourselves, but we have a 15% finance plan which is used by feeders we supply."

"If we bill dealers, they are responsible for payment."

"All hog and beef contracts are with recourse."

7. What is your ratio of receivables to sales volume?

Thirty-one feed manufacturers answered this question with a definite percentage figure. The median ratio of 15% stands between the extreme of 0.77% at the bottom and 103% at the top.

Most of the reported ratios above 15% were in the 25-45% range, and below the 15% median most of the ratios were in the 8-11% range.

8. Is your ratio of receivables to sales volume higher or lower than a year ago at this time? By what percentage?

Answers to this question indicated no concrete trend because 11 respondents said their ratio was higher than a year ago, 12 said their ratio was lower than a year ago and 13 said their ratio was about the same.

The range of increase indicated by those who said the ratio had advanced from a year ago was from 2% to 40%, with the median at 15%.

A median decline of about 3% was indicated for the 12 manufacturers who said their ratio of receivables to sales volume was lower than a year earlier. The range was from 0.5% to 20%.

9. Do you finance any items besides feed, such as equipment or housing? Please describe.

Fifteen of the 39 survey respondents answered that they did finance items other than feed—and these "items" for the most part were chicks, poults, bulk feed bins or tanks, feeders, waterers, fertilizer, animal health products.

A respondent with an annual dollar sales volume of $25 million answered: "In general, no. There are exceptions with established growers where we assist them with advancing down payments against their equity."

Other answers: "Sometimes make loans to egg producers for housing and equipment."

"Feed tanks on monthly payments."

"Some equipment and housing by guarantee to banks on integrated programs."

"Equipment—2-year maximum, 6% quarterly repayment. Conditional sales contracts used."

"Feed bins—on a tonnage credit basis."

10. How many head of livestock and poultry are being fed for your company's own account?

Only 10 feed manufacturers answered this question, but these answers showed that some firms, as has been shown by others, are their own best customers. For instance, one respondent said it was feeding for its own account 1 million turkeys, 1,350,000 broilers and 250,000 layers.

Several of the firms which answered this question said they fed animals only for experimental purposes. One answered that it is feeding only 100 hogs.

11. Compared with a year ago, have payments from customers (1) improved, (2) remained the same or (3) become slower?

Again, the distribution of answers was divided fairly evenly among the question's choices. Fourteen firms said payments from customers had improved, 12 said they had remained

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the same and 11 said they had become slower.

12. What is your annual dollar sales volume?

Although two of the firms which answered the survey questions reported an annual sales volume for 1960 above $200 million, the median figure for the 30 firms which answered this question was in the neighborhood of $2-3 million. The smallest operation involved in the survey, according to the answers to this question, was a firm reporting annual sales of $100,000.

13. What is your annual dollar volume of feed sold under financing arrangements?

Of the 25 feed manufacturers who answered this question, 14 (58%) said they sold no feed under financing arrangements.

Among the 10 respondents who answered the question with a specific dollar amount the range was from $17 million to $20,000. In some instances, the financed portion amounted to a high percentage of total sales volume. One firm reported that $2,400,000 of its total sales of $3 million was financed. Another reported that $10 million of its $12 million in total volume was sold under financing arrangements.

14. Do you expect that the amount financed will reach a greater portion of total sales than it did last year?

Twice as many "no" answers (20) as "yes" answers (10) were recorded for this question.

15. Do you make an interest charge for past due accounts?

The score on this question was 21 "no's" and 17 "yeses." One firm answered both "yes" and "no" and added that its policy depended on the age of the account.

16. Do you provide any information to company management to help it interpret business and economic trends, and do you assist in company planning? If yes, please describe.

Twenty-one of the 34 National Association of Credit Management members checked the "yes" box for this question. The following descriptions indicate how these credit men assist in the management of their feed firms:

"Turnover of accounts as compared to year previous each month and many other aspects of business are always on our minds."

"Member of management committee."

"Forecasts of how much financing we will do and bad debt losses we anticipate."

"Prospects of low egg prices or high prices — also same regarding prospective turkey meat prices."

"Reports, opinions, suggestions at periodic staff meetings."

"During conferences and personal talks, the general trend is discussed as well as specific cases in regard to collections and economic trends in our territory."

"Regular attendance at weekly luncheon of industry credit group assists tremendously."

"Monthly non-current statement of customer accounts for discussion in sales and credit meetings."

"Monthly forecast, past performance, Wall Street Journal and reports from salesmen."

"Have employee and customer meetings where specific problems are discussed."

"Financial and analytical reports, daily management report, cash analysis, etc."

"Weekly reports of accounts past due."

"We recently engaged a marketing specialist."

"Monthly breakdown of sales by terms and quarterly aging of accounts receivable."

"Of course, I know he's letting me win. That's why I play him for $2 a hole!"

REOPEN FEED STORE

GRAND JUNCTION, COLO.— Brown Feed Store has been issued a new state license. It will be reopened and business will be resumed as a corporation, owned by Weiker Enterprises, Inc.

Sprout-Waldron Moves Repair Parts Center

MUNCY, PA.—Sprout, Waldron & Co., Inc., has announced the transfer of its Kansas City repair parts warehouse from Kansas City to the new facility of Sprout, Waldron & Co. of Texas, Inc., Fort Worth.

More space with larger handling equipment will permit stocking more parts and increased personnel will permit handling orders for repair parts more expeditiously, with service to a much larger area, officials say.

Plan Beef Promotion

TORONTO — Beef producers in Ontario will be asked some time in the coming year to take part in a voluntary plan to improve beef consumption and the beef industry generally, as a result of a resolution passed at the annual meeting of the Ontario Beef Cattle Producers Assn. in Toronto.

The proposal is based on a deduction of 10¢ on every head of cattle, including calves, sold for slaughter. This is to include beef cattle sold at community sales for feeder and stocker purposes, even though they may be subject again to a deduction when they are ultimately sold to packing plants or on the public stockyards.

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Accomplishments of Hog Motel Told by Illinois Feed Firm

By Al P. Nelson
Feedstuffs Special Writer

During two years of operation, what has a hog motel housing and feeding project accomplished for Fred and Max Miller, Kent feed dealers at Oakland, Ill., operating Miller Feed Service?

These young men, who also have a 600-acre farm, started the hog motel in 1959 to show hog customers what could be accomplished through proper housing and feeding, and they also figured to make a little money on the project themselves.

The young fellows charge 2¢ per pig per day for care, plus cost of the feed. They house and care for 500 pigs, 50 in a pen. At the time they opened their project, it was hailed in the farm press as being a new trend in the farm field which might spread to many states.

Results of Project

Here's what these feed men say the project has helped them do:

(1) It has more than doubled their annual feed volume.

(2) Has enabled them to set up a livestock sales business where they sell pigs for hog motel and other clients.

(3) Provided enough manure for their farm so that they could raise and sell $1,200 worth of corn on one tract of land.

(4) Brought thousands of farmer visitors to see and inspect the hog motel. This traffic has resulted in more farm supply and feed sales, and has aided in selling 56 grain storage tanks the past year at about $2,700 each.

(5) Helped the firm accumulate many feeding records which are useful in selling feed throughout the entire area.

"We've become known as a feed firm specializing in grinding and mixing hog feeds, and also as a firm that knows what hogs need in housing and feeding through our hog motel project," says Fred Miller. "Actually, this is a very important reputation insofar as public relations is concerned. It has a valuable advertising value for us, and it helps bring in new customers from time to time."

Mr. Miller says that the firm went into the buying and selling of pigs because customers asked them to do it. This venture has also turned out to be a profitable one, and it ties in with the entire feed mill and hog project operation.

"At first we didn't know how we'd come out on the manure deal," Mr. Miller said. "We thought our cleaning and disposal costs would be too high. But we know different now. This manure is scraped or washed down to a center gutter in the buildings, then conveyed outside and lifted into a manure spreader. Last year we put this manure on a tract of corn land. We also planted another corn tract and used commercial fertilizer. We got 140 bu. yield on the manure land and 100 bu. on the other. We figure we made $1,200 on the corn tract land where we used the hog manure."

Most of the 10 farmers who have hogs in the hog motel are full time operators or owners. One farmer, who raises 400-500 beef cattle, didn't want to bother with hogs on the same farm due to disease and labor factors. So he bought 50 feeder pigs and put them into the Miller hog motel.

This feeder record shows that the

FEED RECORDS — Feeding records are the conversation topic in this photo which shows Fred Miller, (left), Miller Feed Service, Oakland, Ill., his father, Howard, and a local hog raiser.

HOG MOTEL—Here's an exterior view of Fred and Max Miller's hog motel at Oakland, Ill. The two brothers, Kent feed dealers operating under the name of Miller Feed Service, charge 2¢ per pig per day for care in their motel, plus cost of feed. These facilities have 10 pens with 50-pig capacity each.

50 HEAD TO A PEN—Fred and Max Miller's hog motel facilities at Oakland, Ill., provide room for 50 hogs (capacity of pen shown here) in each of 10 pens for a 500 head total capacity. The firm charges 2¢ per pig per day, plus cost of feed, for raising a customer's hogs to market weight.

FEED SERVICE FACILITIES—Feed mill and storage tanks belonging to Fred and Max Miller, Miller Feed Service, Oakland, Ill., are pictured here. The firm's hog motel, which raises customers' pigs for 2¢ per pig per day, plus cost of feed, provides these men with many feeding records which are useful in selling feed.

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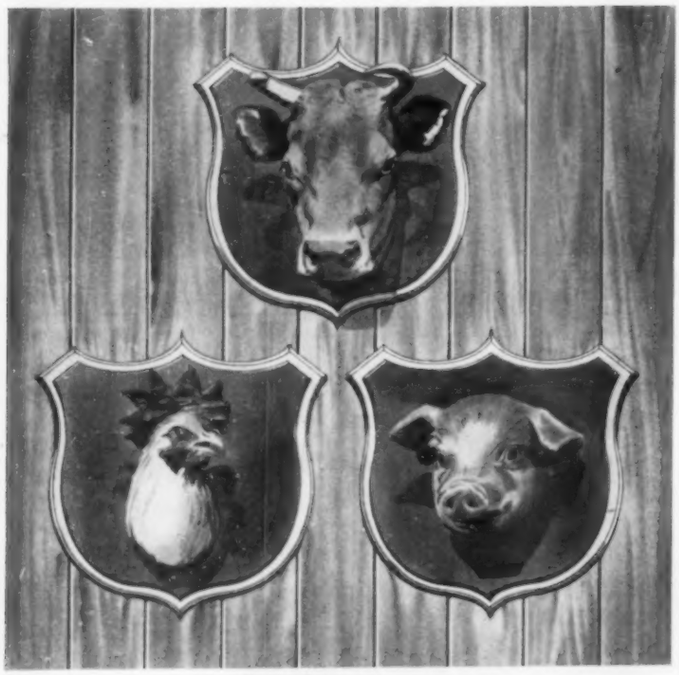

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HOG FEEDING—Hogs on feed at Fred and Max Miller's hog motel in Oakland, Ill., are shown here. The firm's facilities will handle 500 head.

pigs came in Oct. 19 at 47 lb. each. They cost $15 a head or $750. On Dec. 20, 1960, Miller Feed Service shipped his hogs and he got $1,829.48 for them on a $17.90 market. Feed and labor amounted to $823.31. The hog raiser made $305 profit on a $750 cash investment and didn't have to handle or feed the pigs, says Mr. Miller. The pigs got a 3.53 conversion at a cost of 10.4¢ lb. of gain.

This cattle raiser now is trying to work out an arrangement whereby he can put 50 hogs per month into the Miller hog motel. He is well satisfied with his rate of profit on the investment.

Customers like to come into the Miller Feed Service office and ask to see some of the hog motel feeding records. After they get through inspecting them, they can easily see whether Miller feeds and services pay off.

Records like this show what is being done:

Aug. 21, 1960—50 head brought in averaging 40 lb. Marketed at 217 lb. Corn value $1.06 per bu. Conversion rate 3.9. Feed cost 10.3¢. Pigs fed 125 days.

May 1, 1960—50 head brought in averaging 60 lb. Marketed at 212 lb. Corn at $1.25 per bu. Conversion 3.88. 8.8 bu. corn, 85 lb. supplement. Cost 11.4¢ per lb. Fed 95 days.

Oct. 24, 1960—100 head brought in averaging 62 lb. Marketed at 210 lb. Corn at $1.12 bu. Conversion 3.9. Cost 9.3¢ per lb.

The Miller brothers report that they had very little disease trouble during two years of operation. The firm furnishes medication for all pens through a medication house, with numerous pipes and control valves. Pens are also air sprayed with water during hot spells. Some tail biting has been encountered, but this is controlled with an iodine solution.

The hog motel has also resulted in the sale of more B. S. & B. industrial grain drying bins, report the Millers, because of the tremendous traffic flow of farmers to inspect the hog motel.

In 1959, the Millers sold 20 such bins and in 1960 they sold 59 bins and erected them. Bins cost about $2,700 each with foundation, blower and unloader. Each bin holds 4,400 bu. of corn and can dry corn down to 12% moisture when the weather is right. Sometimes such drying requires only two weeks.

"Some feed men have demonstration feeding projects," says Fred Miller. "Ours is also that, but on a large scale. We think the hog projects give our firm an edge in selling hog feed to customers because of the experience we have and the records to prove what our feeds will do."

Howard O. Miller, father of Fred and Max, is farm director of a Mattoon, Ill., radio station. His diversified farm experience is very helpful to his sons in planning the future of their combined farm-hog motel and feed mill operation.

FORMER MILL OFFICER DIES

BOWLING GREEN, KY.—Wendell H. McCulloch, Sr., retired president of Sweet Feed Mills, died here recently. Survivors include a brother, Hugh Hamilton McCulloch of Louisville.

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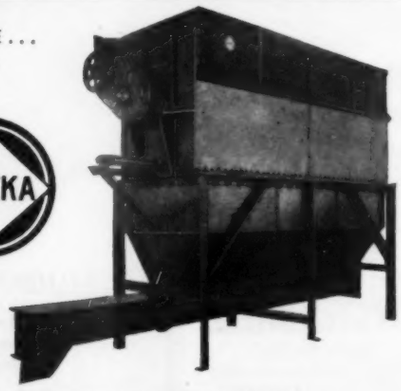

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AT THE FEED SHOW, see the Eureka mixers with automatic discharge gates and other outstanding new features. Booths 99, 100, 101.

Self-Feeders Save Time And Expense in Tests At Arkansas Station

FAYETTEVILLE, ARK. — Self-feeders saved considerable time and expense and permitted one man to care for many more birds at a given location in broiler feeding tests that compared three manual-type feeders at the University of Arkansas experiment station here.

The study was undertaken to compare three manual-type feeders for productive efficiency of broilers and time needed for labor. Compared in the tests were the performances of 5 ft. trough feeders, 20 lb. capacity tube feeders and 70 lb. capacity "Diseker Thrifty" self-feeders.

Used in one test were 135 day-old female chicks. A standard broiler ration was fed to seven weeks of age, using normal feeding practices and the same water space was provided for each pen.

The amount of feeding space for each type of feeder was in accordance with accepted requirements. For the trough feeders, 1 linear in. per bird was provided to three weeks of age, 2 linear in. from three to six weeks of age, and 2.75 linear in. from six weeks to market age. For the tube feeders, two 20 lb. capacity feeders were provided for the entire test, giving about 0.75 linear in. per bird. One "Diseker Thrifty" feeder of 70 lb. capacity was provided per pen, giving about 1 linear in. feeding space per bird. The birds were weighed in groups by pens at seven weeks of age.

In a second test, the same three types of feeders were compared with similar experimental design, except that in this test there were three replicates per treatment and commercial chicks were used, with 65 males and 65 females started per pen. At seven weeks of age, the birds were weighed individually. A commercial diet was fed all birds and management was similar for all pens.

The performance of the birds was taken for growth rate, uniformity, feed conversion, livability, performance index, and the time required for the feeding operation was recorded for each pen.

Results

The results indicated no differences in performance between feeders. However, there was considerable difference in the amount of manual time required for the feeding operation with the three kinds of feeders.

The "Diseker Thrifty" feeders saved considerable time and expense for the feeding operation compared with the trough and tube feeders, permitting one man to care for many more birds at a given location.

The "Diseker Thrifty" feeder occupied 476 sq. in. of floor space, which is less than that occupied by the two tube feeders (628 sq. in.) and the three trough feeders (1,170 sq. in.).

Foreign Students At Whitmoyer Event

MYERSTOWN, PA. — Students from Holland, Spain, Thailand, Peru and Canada joined with U.S. students from 12 states at the 81st session of the Whitmoyer Poultry Health and Nutrition School recently held by Whitmoyer Laboratories, Inc., Myerstown.

A mutual interest in poultry health and nutrition was the common bond that brought these men together at the Whitmoyer meeting. The class was made up of feed sales and servicemen, hatcherymen and other poultry and feed industry people.

The foreign students present were: Rudolph H. deVries and J. S. Van Der Heide from Holland; Drs. Julian Lacruz Lanaspa, Luis Ortin and Carlos Aldea Gimenez, all veterinarians from Spain; Chusak Chavengsaksongkram from Thailand; Hugo Espinoza from Peru; Ellis Farmwald and James Morrow from Canada. With the exception of Mr. Morrow and Mr. Chavengsaksongkram, these men are all either directly, or indirectly, affiliated with Cobb's Pedigreed Chicks, Inc. The Spanish veterinarians are connected with Hybrasa, a large integrated operation in Spain which handles Cobb chicks.

Subjects studied in the Whitmoyer course included nutrition, management, external and internal parasites, bacteriology and disease recognition and control.

The next Whitmoyer class is scheduled for next fall. Anyone interested in attending is invited to get complete information by contacting Dr. J. R. Wiley, Whitmoyer Laboratories, Inc., Myerstown, Pa.

To Revise Nutrition Reports Series by '62

WASHINGTON—Animal nutrition series reports, to be revised by 1962, were among topics discussed at a meeting here by the committee on animal nutrition, National Academy of Sciences — National Research Council.

Eleven reports of this committee will be published within the next two years. Two of them, namely "Fluorosis Problems in Livestock Production" and "Nutrient Requirements of Poultry," are now available through the printing and publishing office of the academy—research council.

The subcommittee on fur-bearer nutrition has started revision of its report on the "Nutrient Requirements of Foxes and Minks." Also to be included in the manuscripts this time are nutritional requirements of nutria and chinchilla.

"Nutrient Requirements of Laboratory Animals," a report that has been in the making for nearly six years, is scheduled for publication late this summer. Among other laboratory animals included in this report will be the cat, rat, monkey, mouse and guinea pig.

Revisions of reports to be made in 1962 include beef, rabbits, dairy, sheep and swine. A revision of the report on the subcommittee on feed additives will also be completed in 1962.

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Note Good Acceptance of Product from New Montana Steam Rolling Installation

Steam rolled barley rations for cattle feeding have continued to increase in popularity in the Montana and Dakota barley areas, and a new installation for production of the supplemented barley rations is located at the Osborne McMillan Elevator Co.'s elevator at Baker, Montana.

The Minneapolis-based grain and feed firm reports that customer acceptance of the product in the area has been very good.

The new service was inaugurated with an open house at the Baker plant several weeks ago.

Capacity of the new facilities has been running between 6 and 7 tons of steam rolled barley per hour. The moisture of the product when received in the truck has been "very satisfactory," and the product is quite free of any fines, J. H. Conlee, manager of country operations, points out.

The roller mill, a 16 x 42 Roskamp with a 60 h.p. motor, is located in a "lean-to" attached to the elevator. A cyclone used in the airlift operation which is part of the installation is located above the mill room. As a source of steam, the plant uses a 40 h.p. Cleaver Brooks boiler.

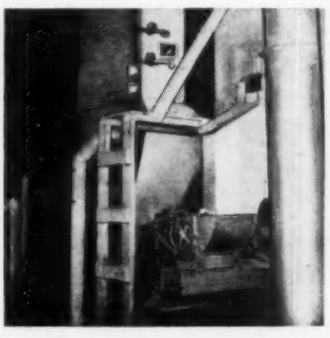
The product is conveyed from the roller mill by use of a 30 h.p. blower fan into a 6-ft. collector. Concentrates are added by use of a small leg into a bin which feeds into a Draver feeder. The concentrates are dropped in with the barley into an air lock and then into the air line.

From the collector, the feed drops into an auger mixer for addition of molasses, and then it goes into waiting trucks.

Osborne McMillan's latest installation at Baker is being followed by another steam roller setup at Regent, N.D. This installation will have a 4-ton-per-hour capacity.

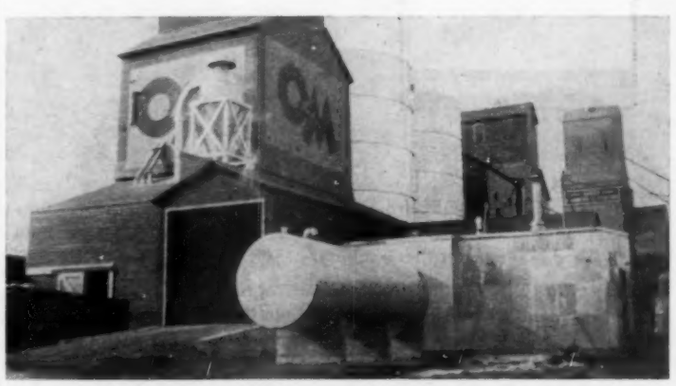
MONTANA ELEVATOR—This picture shows the Osborne McMillan Elevator Co.'s elevator at Baker, Montana, where a new steam rolling installation is located. The steam roller is located in the far elevator. This photo was taken at the time of an open house held to inaugurate the new steam rolling service.

CONTROLS—This picture shows the molasses controls in the steam rolling installation. On the right, a truck, partially visible through a doorway, is being loaded with feed.



STEAM ROLLER—Shown in this photo at the Baker installation are the Roskamp roller mill, steamer and Draver feeder.

FINISHED RATION—Steam rolled barley is being loaded into a truck at the Osborne McMillan Baker, Mont., plant. The photo shows the barley ration as it comes from the auger-mixer where molasses is added.



STEAM ROLLING FACILITIES—In the foreground of this picture of the Baker, Montana, facilities are the boiler room and a 5,000-gal. molasses tank. The nose of the tank extends into the boiler room approximately 4 ft. for heating purposes. The roller mill is located in the "lean-to" attached to the elevator directly under the two spouts coming from the house. The cyclone used in the airlift operation is above the mill room.

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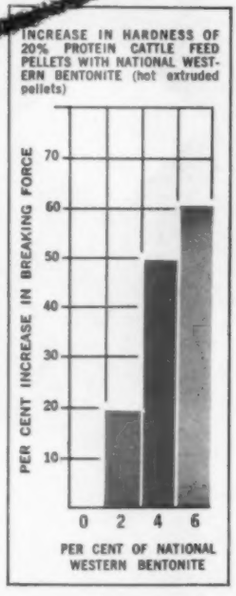

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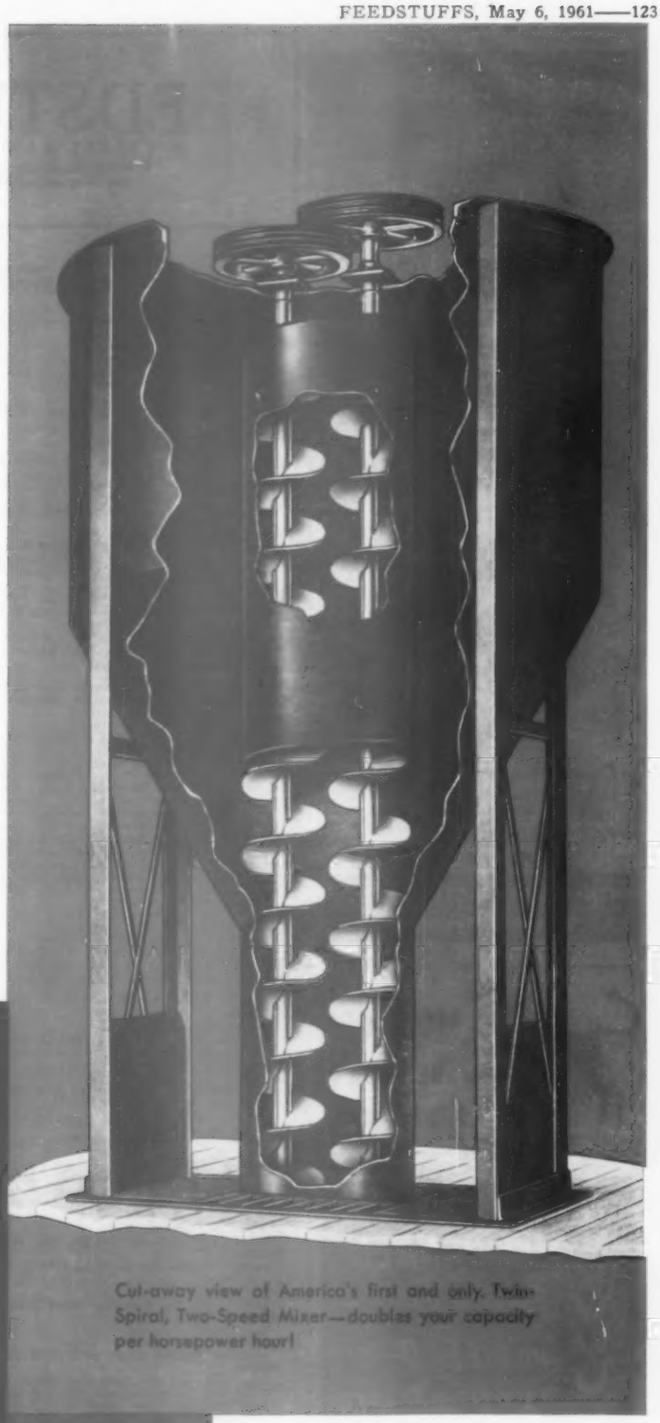

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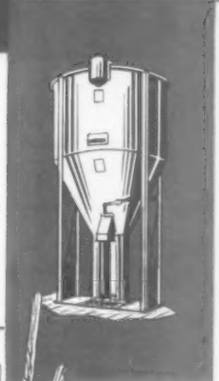

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Monthly Index
March, 1961
Volume 33 Numbers 9-12

ADDITIVES:
Dollars and Sense of Swine Feed Additives ..... March 18—p 18
National Livestock Feeders Assn. Convention ..... March 11—p 24

ALFALFA:
Putting Research to Work ..... March 18—p 68

AMINO ACIDS:
Distillers Feed Conference ..... March 11—p 6
Maryland Nutrition Conference ..... March 18—p 1; March 25—p 15
Oklahoma Feed Conference ..... March 18—p 1
Poultry Industry School ..... March 11—p 10
Southern Agricultural Workers Assn. Meeting ..... March 11—p 26

ANTIBIOTICS:
Clearance of Tylosin in Water ..... March 4—p 43
Dollars and Sense of Swine Feed Additives ..... March 18—p 18
Feeders Day ..... March 25—p 66
Montana Nutrition Conference ..... March 4—p 6
Poultry Industry School ..... March 11—p 10
Southern Agricultural Workers Assn. Meeting ..... March 11—p 26

ASSOCIATIONS:
American Feed Mfrs. Assn. (Convention Plans) ..... March 11—p 1
American Soybean Assn. (Support Plan) ..... March 4—p 64
Association of Southern Agricultural Workers (Meetings) ..... March 4—p 26; March 11—p 26
Associated Poultry & Egg Industries (Meeting) ..... March 4—p 19
California Hay, Grain & Feed Dealers Assn. (Feedlots May Join) ..... March 18—p 95
California Poultry Improvement Commission (Meeting) ..... March 11—p 16
Colorado Grain, Milling & Feed Dealers Assn. (Convention) ..... March 11—p 7
Feed Production School ..... March 11—p 16
Grain & Feed Dealers National Assn. (Convention) ..... March 25—p 1
Institute of American Poultry Industries (Directors Meeting) ..... March 4—p 19
(Fact Finding Conference) ..... March 11—p 30
Midwest Feed Mfrs. Assn. (Appreciation Award) ..... March 18—p 4
(Convention) ..... March 4—p 10
Mutual Millers & Feed Dealers Assn. (Convention) ..... March 11—p 1
National Association of Credit Men (Conference) ..... March 4—p 1
National 4-H Club Foundation Assn. (Appointment) ..... March 11—p 46
National Livestock Feeders Assn. (Convention) ..... March 11—p 24
National Turkey Federation (Meeting) ..... March 18—p 71
Nebraska Grain & Feed Dealers Assn. (Convention) ..... March 25—p 44
Nebraska Turkey Federation (Convention) ..... March 4—p 36
North East Poultry Industry Associates (Scholarship) ..... March 11—p 32
Northwest Feed Mfrs. Assn. (Scholarship Winners) ..... March 11—p 11
Ohio Grain & Feed Dealers Assn. (Convention) ..... March 4—p 7
Oregon Feed & Seed Dealers Assn. (Convention) ..... March 25—p 7
(Presidential Candidate) ..... March 4—p 72
Southeastern Poultry & Egg Assn. (Activities) ..... March 11—p 58
Texas Dehydrators Assn. (Meeting) ..... March 18—p 104
U.S. Feed Grains Council (Officers) ..... March 11—p 40
Utah Feed Mfrs. & Dealers Assn. (Convention) ..... March 11—p 87
Virginia State Feed Assn. (Convention) ..... March 4—p 101
Wyoming Grain, Feed & Seed Dealers Assn. (Convention) ..... March 11—p 66

AUTHORS:
Berglund, Roger
Mill Specializes in Turkey Feed Operations ..... March 4—p 46
Specialized Mill Produces Feeds for Layers and Turkeys ..... March 18—p 28
Brown, E. E.; Fudge, J. F.
Detection of Crotalaria Seed in Mixed Feeds ..... March 4—p 90
Catron, Dr. Damon V.
Dollars and Sense of Swine Feed Additives ..... March 18—p 18
Church, Dr. D. C.
High-Roughage Pellets for Fattening Lambs ..... March 4—p 38
Couch, Dr. J. R.
Review of Poultry Papers Presented at Southern Agricultural Workers Meeting ..... March 4—p 26; March 11—p 26
Ferguson, Roy
Where Are We Going With Fryer-Roaster Turkeys? ..... March 25—p 50
Fudge, J. F. (See Brown, E. E.)
Harold, Dr. LaVerne C.
What Level of Drugs Can Be Used in Feeds? ..... March 25—p 6
Hillier, J. C.
Energy Trends and Developments in Feeding Meat Animals ..... March 11—p 70
Hunt, Prof. E. C.
Ontario Poultry Nutrition Work Outlined ..... March 11—p 10
Hyppola, Kalervo
Milk Replacer Research ..... March 18—p 86
Morris, Dr. Lawrence
Nutrition Reports Given at Utah Conference ..... March 11—p 14
Nelson, Al P.
Egg Marketing Programs Gain Favor in Midwest ..... March 18—p 60
Feed Man Turns Old Mill into a Profit Maker ..... March 25—p 34
Feed Men Tell How They Help Producers Market Eggs ..... March 25—p 42
Iowa Firm's Dollar Day Attracts Customers ..... March 18—p 44
Petersen, Prof. C. F.
Calcium Intake Level, Strain of Birds and Rate of Egg Production All Influence Egg Shell Quality ..... March 25—p 18
Stratton, Charles L.
Eastern Feed Man Offers Some Industry Answers ..... March 25—p 78
Tokheim, Russell
Swine Management, Housing Advice Spur Feed Sales ..... March 4—p 30
Voslah, Carl J., Jr.
How to Reduce Pelleting Costs ..... March 4—p 24
Wright, Dr. Karl T.
Records As An Aid in Poultry Flock Management ..... March 18—p 36

BARLEY:
Favorable Results With High-Barley Rations Noted ..... March 18—p 52

CANADA:
Endorse Plan for Development ..... March 25—p 61
Increased Shipments ..... March 4—p 73
Storage and Subsidy Systems Proposed ..... March 11—p 77

CATTLE FEEDING:
Feeders Day ..... March 25—p 66
High-Barley Rations Noted ..... March 18—p 52
Increases in Cattle Feeding in Barley Areas ..... March 18—p 52
Oklahoma Feed Industry Conference ..... March 25—p 16
Utah Feed Manufacturers & Dealers Assn. ..... March 11—p 14
Virginia Nutrition Conference ..... March 11—p 4

COCCIDIOSTATS:
Southern Agricultural Workers Assn. Meeting ..... March 11—p 26

COMPANIES:
Abbott Laboratories (Questions New Drug Regulations) ..... March 25—p 48
Agricultural Development Co. (Honors Top Producer) ..... March 18—p 7
Alabama Flour Mills (Appointment) ..... March 25—p 33
Allied Mills, Inc. (2-Ton Litters) ..... March 25—p 76
American Cyanamid Co. (Appointment) ..... March 25—p 14
Arbor Acres (Appointment) ..... March 4—p 34
(Poultry Overproduction Threat) ..... March 25—p 6
Archer-Daniels-Midland Co. (Appointment) ..... March 18—p 68
Arkansas Egg Farms, Inc. (85% Production Goal) ..... March 4—p 36
Arkansas Valley Industries, Inc. (Opens Poultry Plant) ..... March 11—p 69
Beardstown Mills (Appointment) ..... March 4—p 77
Bemis Bro. Bag Co. (Promotion) ..... March 11—p 49
Bioferm Corp. (Sells to International Minerals) ..... March 18—p 66
Bradley Barr & Co. (Opens Business) ..... March 25—p 8
Buckeye Incubator Co. (Appointment) ..... March 25—p 33
Central Soya (Appointment) ..... March 4—p 101
(Promotion) ..... March 18—p 50
Commercial Solvents Corp. (Appointments) ..... March 4—pp 21 & 72
(Earnings Report) ..... March 11—p 85
(New Office) ..... March 18—p 7
Consumers Cooperative Assn. (Business Volume Up) ..... March 4—p 42
Cooperative G.L.F. Exchange, Inc. (Pelleting Plant) ..... March 25—p 8
Cosby-Hodges Milling Co. (Speed Man) ..... March 18—p 87
Daffin Mfg. Co. (New Service) ..... March 18—p 99
Dannen Mills (Promotion) ..... March 4—p 11
Dave's Laboratories (Appointment) ..... March 4—p 105; March 11—p 85
(Western Office) ..... March 18—p 16
Delight Egg Farms, Inc. (Buys Sunny Yolk Farms) ..... March 18—p 61
Delmarva Poultry Industry, Inc. (Promotion) ..... March 11—p 17
Diamond Crystal Salt Co. (Trademark) ..... March 4—p 21
Distillation Products Industries (Appointment) ..... March 4—p 60
Doane Feed Products Co. (Promotion) ..... March 11—p 48
Doughboy Industries (Appointment) ..... March 11—p 81
(Laboratory) ..... March 4—p 100
Early & Daniel Co. (Poultry Manual) ..... March 4—p 29
Elanco Products Co. (Tylosin in Water) ..... March 4—p 43
Fabrica De Alimentos Balanceados Champion (Sells to International Milling) ..... March 11—p 7
Fasco Mills (New Mill) ..... March 4—p 4
Ferrell, A. T., & Co. (Promotion) ..... March 18—p 71
General Mills, Inc. (Appointments) ..... March 4—p 48; March 11—p 36
(New Division) ..... March 4—p 56
Grace, W. R., & Co. (Appointment) ..... March 11—p 21
(Executive Changes) ..... March 11—p 80
Gray, James H., Milling Co. (Appointment) ..... March 18—p 50
Hales & Hunter Co. (Directors Elected) ..... March 25—p 4
Honeggers' & Co. (Opens Kansas Unit) ..... March 18—p 6
(Sales Up) ..... March 4—p 6
Howes, S., & Co. (Appointment) ..... March 4—p 19; March 11—p 36
(Sales Meeting) ..... March 25—p 80
Hubbard Milling Co. (Appointment) ..... March 11—p 7
(Promotion) ..... March 25—p 65
Idah-Best, Inc. (Appointment) ..... March 25—p 53
International Milling Co. (Buys Firm) ..... March 11—p 17
International Minerals & Chem. Co. (Agents Meet) ..... March 11—p 8
(Buys Bioferm Corp.) ..... March 18—p 66
(Shipment of Tricaphos) ..... March 18—p 14
Joseph, I. S., Co., Inc. (Appointment) ..... March 4—p 100
Klinke Hatchery (Shopping Center) ..... March 11—p 34
Madera Milling Co. (Fire) ..... March 4—p 6
Maple Leaf Milling Co., Ltd. (Merges With Toronto Elevators) ..... March 11—p 8
Martin Brothers (Show Customers) ..... March 4—p 82
Maynard Cooperative (Dollar Day) ..... March 18—p 44
Merck & Co. (Sales Set New Record) ..... March 4—p 52
Miss Goldy, Inc. (Merge With Sanderson Brothers) ..... March 18—p 1
Moroni (Utah) Feed Co. (Expansion) ..... March 11—p 7
New Century Co. (Appointment) ..... March 4—p 24
Northern Biochemical Co. (Negotiations) ..... March 11—p 8
Nutrena Mills, Inc. (Answers to Survey) ..... March 18—p 6
(Back Labeling Changes) ..... March 11—p 6
(New Feed Computer) ..... March 25—p 54
Pamco, Inc. (Appointment) ..... March 4—p 94
Peavey Feed Mills (Pig Profit Planner) ..... March 11—p 86
(Sales Meeting) ..... March 4—p 73
Perdue, A. W., & Son (Soybean Plant) ..... March 4—p 1; March 18—p 84
Pfizer, Chas., & Co., Inc. (Poultry Diagnostic Lab.) ..... March 11—p 36
Pillsbury Co., The (California Mill) ..... March 4—p 6; March 18—p 7
Ralston Purina Co. (New Plant in Colombia) ..... March 11—p 8
Reid-Strutt Co., Inc. (Distributor) ..... March 4—p 60
Rhodia, Inc. (Piperazine Prices) ..... March 11—p 63
Richardson Scale Co. (Retirement) ..... March 4—p 29
Rocky Mountain Egg Co. (Egg Project) ..... March 25—p 8
Ross Machine & Mill Supply Co. (Promotion) ..... March 18—p 6
Rugby Farmers Union Elevator Co. (Steam Rolling) ..... March 11—p 18
Salsbury's, Dr., Laboratories (Appointment) ..... March 4—p 17
Sanderson Brothers, Inc. (Merger) ..... March 18—p 1
Sheldon Chemical Co. (Postpone Meeting) ..... March 4—p 4
Smith, J. Howard, Inc. (Appointment) ..... March 18—p 7
Southern Industries Corp. (Appointment) ..... March 4—p 11
Squibb, E. R., & Son (Additive Petition) ..... March 4—p 53
Sterling Enterprises (Broilers in Caverns) ..... March 18—p 7
Sunny Yolk Farms (Sells) ..... March 18—p 61
Topper Feed Mills (Specializes in Turkey Feed) ..... March 4—p 46
Toronto Elevators, Ltd. (Merges With Maple Leaf) ..... March 11—p 8
Utah Poultry & Farmers Cooperative (Group Changes Name) ..... March 11—p 61
Vineland Poultry Laboratories (Appointment) ..... March 11—p 58
Vitren Corp. (Appointment) ..... March 25—p 4
West, J. S., Milling Co. (Feeds for Layers, Turkeys) ..... March 18—p 28
West Virginia Pulp & Paper Co. (Appointment) ..... March 11—p 48
Whitmoyer Laboratories, Inc. (Affiliates Hold Sales Session) ..... March 18—p 51

COMPUTERS:
Nutrena Introduces New Feed Computer ..... March 25—p 54

CONSUMPTION & PRODUCTION:
Feedstuffs Consumption Increases ..... March 4—p 53
Nebraska Tonnage Told ..... March 11—p 81

CONDEMNATIONS:
Delmarva Condemnation Loss ..... March 25—p 35
Poultry Disease Short Course ..... March 25—p 62

CONFERENCES:
Association of Southern Agricultural Workers ..... March 4—p 26; March 11—p 26
Broiler Housing Symposium ..... March 18—p 102
Cow Conference ..... March 25—p 60
Distillers Feed Conference ..... March 11—p 6
Feeders Day (New Mexico) ..... March 25—p 66
Farmers Week Program ..... March 4—p 58
Georgia Turkey Assn. ..... March 4—p 20
Iowa Swine Production Conference ..... March 18—p 10
Maryland Nutrition Conference ..... March 18—p 1; March 25—pp 10, 12, 14, 15
Montana Nutrition Conference ..... March 4—p 6
Oklahoma Feed Industry Conference ..... March 25—p 16
Pacific Northwest Feed Mill Production School ..... March 4—p 14
Poultry Disease Conference ..... March 25—p 1
Poultry Disease Short Course (Georgia) ..... March 25—p 62
Poultry Industry School ..... March 11—p 10
Purdue University Conference ..... March 25—p 36
Utah Feed Manufacturers & Dealers Assn. ..... March 11—p 14
Virginia Feed Convention & Nutrition Conference ..... March 4—p 1; March 11—p 4; March 18—p 100

COOPERATIVES:
Sell More Feed Than Any Other Farm Supply ..... March 18—p 48

CORN:
USDA Indicates OK of Cut Price Corn Sale ..... March 25—p 4

COTTONSEED MEAL:
Discussion on Cottonseed Use ..... March 18—p 42

CREDIT & FINANCING:
Bank Broiler Credit Up; Trade Credit Off ..... March 11—p 8
Farm Operating Loan Requirements Revised ..... March 18—p 1
National Association of Credit Men ..... March 4—p 1
Poultry Fact Finding Conference ..... March 11—p 30
Purdue University Conference ..... March 25—p 36

CROTALARIA:
Detection of Crotalaria Seed in Mixed Feeds ..... March 4—p 90

DAIRY FEEDING:
Computer Put to Work on Dairy Feeds ..... March 18—p 100
Cow Conference ..... March 25—p 60

Distillers Feed Conference ..... March 11—p 6
Maryland Nutrition Conference ..... March 18—p 1; March 25—p 12

DISEASE:
Chick Edema Factor Contains Chlorine ..... March 25—p 4
Maryland Nutrition Conference ..... March 18—p 1; March 25—p 12
Poultry Disease Short Course (Georgia) ..... March 25—p 62
Putting Research to Work ..... March 18—p 68
Research Conference ..... March 25—p 1
Virginia Feed Convention & Nutrition Conference ..... March 11—p 4

DISTILLERS FEEDS:
Distillers Feed Conference ..... March 11—pp 1 & 6

ENERGY:
Distillers Feed Conference ..... March 11—p 6
Maryland Nutrition Conference ..... March 18—p 1; March 25—p 10
Poultry Industry School ..... March 11—p 10
Putting Research to Work ..... March 4—p 50
Southern Agricultural Workers Assn. Meeting ..... March 11—p 26
Trends and Developments in Feeding Meat Animals ..... March 11—p 70
Utah Feed Manufacturers & Dealers Assn. Convention ..... March 11—p 14
Virginia Feed Convention & Nutrition Conference ..... March 11—p 4

ENZYMES:
Feeders Day ..... March 25—p 66

EXCHANGES:
Lincoln Grain Exchange—Election ..... March 4—p 56

EXPORTS:
Freeman Gives Reply on Oats ..... March 18—p 4
Grain & Feed Dealers National Assn. Convention ..... March 25—p 1

FARM POLICY:
Capital Comment ..... March 25—p 7
Grain & Feed Dealers National Assn. Convention ..... March 25—p 1
Grain Measure ..... March 11—p 1
Ohio Grain & Feed Dealers Assn. ..... March 4—p 7
President Proposes 'Do It Yourself Kit' ..... March 18—p 1
Senate Unit Rejects Sale Provisions ..... March 4—p 1

FATS:
Maryland Nutrition Conference ..... March 18—p 1; March 25—p 15
Putting Research to Work ..... March 4—p 50

FEED SUPPLIES:
'61 Crop Plantings May Equal Last Year's ..... March 25—p 4

FISH PRODUCTS:
International Fish Meal Conference ..... March 18—p 4
Maryland Nutrition Conference ..... March 18—p 1; March 25—p 15

FUMIGANTS:
Southern Agricultural Workers Assn. Meeting ..... March 11—p 26

GOVERNMENT AID:
Emergency Feed Area Named ..... March 4—p 48
Thirty-One Alabama Counties to Get USDA Aid ..... March 11—p 7

GRAIN STORAGE:
Kansas Increases Five Fold in 15 Years ..... March 25—p 40
Nebraska Grain & Feed Dealers Assn. Convention ..... March 25—p 44
U.S. Files Suit in Storage Case ..... March 25—p 8

GRAIN TRADE:
Colorado Grain, Milling & Feed Dealers Assn. Convention ..... March 11—p 7

GRIT:
Poultry Industry School ..... March 11—p 10
Southern Agricultural Workers Assn. Meeting ..... March 11—p 26

HORMONES:
Feeders Day ..... March 25—p 66
Hormone Product Said to Look Promising for Non-Ruminants ..... March 25—p 37
Rule on Thyroxine for Sows Being Changed ..... March 4—p 11

INTEGRATION & CONTRACT FARMING:
Eastern Feed Man Offers Some Industry Answers ..... March 25—p 78
Egg Group Honors Top Producers ..... March 18—p 7
Firm Specializes in Turkey Feed Operations ..... March 4—p 46
Forty-sixth Annual Farmers Week Program ..... March 4—p 58
Indiana Groups Team Up on Hog Program ..... March 11—p 42
Mill Produces Feeds for Layers and Turkeys ..... March 18—p 28

LEGISLATION:
Provisions and Effects of New Feed Grain Bill Termed Vague ..... March 25—p 1
Senate Unit Rejects Sale Provision ..... March 4—p 1

LIVESTOCK INDUSTRY:
Canada Claims Hog Quality Gives It Edge in Marketing ..... March 11—p 32
Oklahoma Feed Industry Conference and Workshop ..... March 25—p 16

LIVESTOCK NUMBERS:
Cattlemen's Group Calls Inventory Changes 'Good News' ..... March 4—p 105
Corn Belt Farrowing Indications Told ..... March 25—p 8
January Cattle Shipments Up 26% ..... March 11—p 36
Lamb Crop Report ..... March 11—p 81
Milk Production in 1960 Up 1% as Cow Numbers Decline 2% ..... March 4—p 56
Numbers of Sheep, Lambs on Feed Off ..... March 18—p 6
Predict Stable Cattle Prices in '61 ..... March 11—p 1
Spring Farrowing Intentions Up 8% ..... March 18—p 1
Total Livestock, Poultry Inventory Unchanged ..... March 4—p 1
Up or Down ..... March 25—p 56

MANAGEMENT—BUSINESS:
Colorado Grain, Milling & Feed Dealers Assn. Convention ..... March 11—p 7
Firm Specializes in Turkey Feed Operations ..... March 4—p 46
Midwest Feed Manufacturers Assn. ..... March 4—p 10
Mill School Workshops Include Public Relations and Molasses Discussions ..... March 4—p 99
Mutual Millers & Feed Dealers Assn. ..... March 11—p 1
Pacific Northwest Feed Mill Production School ..... March 4—p 14
Ohio Grain & Feed Dealers Assn. ..... March 4—p 7
Sixty Census May Affect Exemption Status of Elevator Employees ..... March 11—p 68
Wisconsin Feed Man Establishes Shopping Center ..... March 11—p 34

MANAGEMENT—LIVESTOCK & POULTRY:
Association of Southern Agricultural Workers ..... March 4—p 26
Broiler Housing Symposium ..... March 18—p 102
Distillers Feed Conference ..... March 11—p 6
Georgia Turkey Assn. ..... March 4—p 20
Iowa Swine Production Conference ..... March 18—p 10
Maryland Nutrition Conference ..... March 18—p 1; March 25—pp 11 & 15
Poultry Industry School ..... March 11—p 10
Records As An Aid in Poultry Flock Management ..... March 18—p 36
Virginia Feed Convention & Nutrition Conference ..... March 4—p 1

MARKETING:
Chicken in School Lunch Menu ..... March 4—p 42
Fryer-Roaster Turkeys ..... March 25—p 50
Grocery Chain-Meat Production Trend Told ..... March 11—p 85
Help Producers Market Eggs ..... March 25—p 42
Nebraska Turkey Federation Convention ..... March 4—p 36
Opposes Attempt to Remove Market Peaks and Valleys ..... March 11—p 40
Purdue University Conference ..... March 25—p 36
Specializes in Turkey Feed Operations ..... March 4—p 46

MERCHANDISING:
Brothers Show Feed Customers ..... March 4—p 82
Feed Man Establishes Shopping Center ..... March 11—p 34
Feed Man Turns Old Mill into a Profit Maker ..... March 25—p 34
Maynard's Dollar Day ..... March 18—p 44
Midwest Feed Manufacturers Assn. ..... March 4—p 10
Swine Management, Housing Advice Spur Company Feed Sales ..... March 4—p 30

MINERALS:
Dollars and Sense of Swine Feed Additives ..... March 18—p 18
Georgia Demonstrates That Zinc Deficiency Affects Dairy Cattle ..... March 18—p 66
Influences on Egg Shell Quality ..... March 25—p 18
Iowa Swine Production Conference ..... March 18—p 10
Poultry Industry School ..... March 11—p 10
Maryland Nutrition Conference ..... March 18—p 1; March 25—pp 10, 12, 15
Montana Nutrition Conference ..... March 4—p 6
National Livestock Feeders Assn. Convention ..... March 11—p 24
Putting Research to Work ..... March 4—p 50; March 11—p 62
Southern Agricultural Workers Assn. ..... March 11—p 26
Twin City Nutrition Seminar ..... March 18—p 27
Utah Feed Manufacturers & Dealers Assn. ..... March 11—p 14
Virginia Feed Convention & Nutrition Conference ..... March 11—p 4

MOLASSES:
Feeders Day ..... March 25—p 66

MOLDS:
Maryland Nutrition Conference ..... March 18—p 1

NITRATES:
Montana Nutrition Conference ..... March 4—p 6

PELLETING:
Feeders Day ..... March 25—p 66
High-Roughage Pellets for Fattening Lambs ..... March 4—p 38
How to Reduce Pelleting Costs ..... March 4—p 24
Maryland Nutrition Conference ..... March 18—p 1; March 25—p 15
Notes More Pelleted Dairy Feed ..... March 11—p 54
Poultry Industry School ..... March 11—p 10
Virginia Feed Convention & Nutrition Conference ..... March 11—p 4

POTATOES:
Putting Research to Work ..... March 25—p 64

POULTRY FEEDING:
Farmers Week Program ..... March 4—p 58
Influences on Egg Shell Quality ..... March 25—p 18

POULTRY INDUSTRY:
Fryer-Roaster Turkeys ..... March 25—p 50
Large, Small Types of Poultry Operators Emerge in Southwest ..... March 4—p 83
'Musts' for Poultry Industry in Delmarva Region ..... March 25—p 69

POULTRY NUMBERS:
National Feeder Finance Credit Group Meeting ..... March 4—p 1
Nebraska Grain & Feed Dealers Convention ..... March 25—p 44
Over-Expansion in All Poultry Now Indicated ..... March 11—p 1
Potential Layers ..... March 18—p 1
Poultry Overproduction Threat Called Problem ..... March 25—p 6
Sharp Increases in Egg-Type Chick Hatch Reported ..... March 25—p 1
Total Livestock, Poultry Inventory Unchanged ..... March 4—p 1
USDA Gives Revised Number on Broilers ..... March 18—p 64

PRICE SUPPORTS:
Congress Revising Grain Bill ..... March 18—p 1
Provisions and Effects of New Feed Grain Bill Termed Vague ..... March 25—p 1

PRICES:
Bean Future Price Still Far Under Mark Set in 1948 ..... March 4—p 78
National Feeder Finance Credit Group ..... March 4—p 1
Over-Expansion in All Poultry Now Indicated ..... March 11—p 1
Stable Cattle Prices in '61; Hogs to Rise ..... March 11—p 1
Up or Down ..... March 4—p 44

PRODUCTION & MILL OPERATIONS:
Firm Specializes in Turkey Feed Operations ..... March 4—p 46
How to Reduce Pelleting Costs ..... March 4—p 24
Mill Produces Feeds for Layers and Turkeys ..... March 18—p 28
Mill School Workshops ..... March 4—p 99
Pacific Northwest Feed Mill Production School ..... March 4—p 14
Reports Success in Barley Steam Rolling ..... March 11—p 18

PROTEIN:
Distillers Feed Conference ..... March 11—p 6
Favorable Results With High-Barley Rations Noted ..... March 18—p 52
Maryland Nutrition Conference ..... March 25—pp 12 & 15
Poultry Industry School ..... March 11—p 10
Putting Research to Work ..... March 4—p 50
Southern Agricultural Workers Assn. Conference ..... March 11—p 26
Utah Feed Manufacturers & Dealers Assn. Convention ..... March 11—p 14

REGULATORY:
Abbott Labs Questions New Drug Regulations ..... March 25—p 48
Clearance of Tylosin in Water ..... March 4—p 43
Feed Control Comment ..... March 4—p 18; March 18—p 71
Food Additive Petition for Nystatin Filed ..... March 4—p 53
Grain & Feed Dealers National Assn. ..... March 25—p 1
Industry Awaits FDA Decision on Concentrate Question ..... March 11—p 1
Industry to Outline Its Position on Concentrates ..... March 4—p 1
Montana Nutrition Conference ..... March 4—p 6
Nebraska Grain & Feed Dealers Assn. ..... March 25—p 44
Nutrena Tells Its Answers to Survey on Label Revision ..... March 18—p 6
Nutrena Urges Feed Industry to Back Labeling Changes ..... March 11—p 6
Pacific Northwest Feed Mill Production School ..... March 4—p 14
Survey on Revising Feed Tag Information ..... March 4—p 1
Utah Feed Manufacturers & Dealers Assn. ..... March 11—p 14
Virginia Feed Convention & Nutrition Conference ..... March 11—p 4
What Level of Drugs Can Be Used in Feeds? ..... March 25—p 6
Wyoming Grain, Feed & Seed Dealers Assn. ..... March 11—p 66

RESEARCH:
Iowa Swine Production Conference ..... March 18—p 10
Purdue University Conference ..... March 25—p 36

RESIDUES:
Maryland Nutrition Conference ..... March 25—p 12

RESTRICTED FEEDING:
Pullet Diet ..... March 18—p 50
Utah Feed Manufacturers & Dealers Assn. ..... March 11—p 14

SERVICE:
Eastern Feed Man Offers Some Industry Answers ..... March 25—p 78

SHEEP FEEDING:
High-Roughage Pellets for Fattening Lambs ..... March 4—p 38

SOYBEAN OIL MEAL:
Soybean Report ..... March 25—p 4

SOYBEANS:
Distillers Feed Conference ..... March 11—p 6
Maryland Nutrition Conference ..... March 18—p 1

STANDARDS:
Feed Production School Assn. ..... March 11—p 16

SUGAR:
Iowa Swine Production Conference ..... March 18—p 10

SWINE FEEDING:
Maryland Nutrition Conference ..... March 25—p 12
Montana Nutrition Conference ..... March 4—p 6

TAXES:
Sixty Census May Affect Exemption Status of Elevator Employees ..... March 11—p 68

TRANQUILIZERS:
Feeders Day ..... March 25—p 66
Increases Feed Efficiency in Illinois Steer Test ..... March 11—p 56
Poultry Industry School ..... March 11—p 10
Utah Feed Manufacturers & Dealers Assn. ..... March 11—p 14

TURKEY FEEDING:
Georgia Turkey Assn. ..... March 4—p 20
Maryland Nutrition Conference ..... March 25—p 12
Oklahoma Feed Industry Conference ..... March 18—p 1
Virginia Feed Convention & Nutrition Conference ..... March 11—p 4

UNIDENTIFIED FACTORS:
Distillers Feed Conference ..... March 11—pp 1 & 6
Maryland Nutrition Conference ..... March 18—p 1

VITAMINS:
Comments on Use of Added Vitamin A ..... March 25—p 40
Distillers Feed Conference ..... March 11—pp 1 & 6
Favorable Results With High-Barley Rations Noted ..... March 18—p 52
Maryland Nutrition Conference ..... March 25—p 15
Poultry Industry School ..... March 11—p 10
Suggests at Least 10,000 Units of A ..... March 18—p 51

WHEAT BY-PRODUCTS:
Maryland Nutrition Conference ..... March 18—p 1

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JOE BROOKS

BY AL P. NELSON

Feed Men Must Figure

When Windy Kramer came in from the route that afternoon, Milt Peters called to him. "Windy, Joe's been asking for you. Better go in and see him right away. He seemed anxious."

Windy looked at the sheaf of route orders in his hand. "Well, he can't kick on what I've been sellin'. I had a darn good month."

"Maybe he's going to raise your salary," Milt chided.

"Yeah, that'd be the day, wouldn't it?" Windy chuckled. "Who's raisin' salaries these days, with economic adjustment still going on? But I could use a raise. I've got four kids and another on the way."

"You don't say!" exclaimed Milt. "Say, you married guys are brave all right. I'd shake in my boots to see six hungry mouths starin' at me every mornin' at breakfast table."

"Not bad at all," smiled Windy. "Wait till you have four or five youngsters runnin' out to meet you comin' home, and wrappin' their arms around your legs and all callin' 'Daddy! Daddy!' Makes you feel rich, man."

Milt looked puzzled. "That's a feeling you married guys have that I don't, Windy. I wonder if I'll ever have it."

"Concentrate on one redhead and see what happens," Windy advised. "Give her a chance to sell you on the idea. Forget her competition."

He went into Joe's office. "You want to see me, Joe?" he asked.

The brown haired feed dealer leaned back in his swivel. "Sure," he smiled. "Got an idea to talk over with you. Sit down."

Relieved, Windy sat down in a straight backed oak chair. At least Joe wasn't angry with him. He knew the dealer well enough to be able to sense his moods. Easily he placed the day's orders on the desk.

Joe took the orders, riffled through them and smiled. "Another good day. You've been having a lot of them, Windy.

Windy grinned. "Yes, I keep my eye on sales," he said. "That's what we work for."

Grinding, Mixing

Joe smiled. "That's right. Windy, how many farmers on your route do their own grinding and mixing?"

Windy frowned. This was a sore point with him. A number of farmers, especially large size poultrymen, as well as hog and cattle feeders, had been sold either straight hammer mills, or blenders, or grind-mix outfits by hustling equipment salesmen.

And whereas Windy had been selling some of these customers complete feed, now he sold them only supplements. And some he could not sell supplements because they were experimenting with their own mixes from the ground up.

Cost Comparison

"Oh, I would say about 11 in this area," he said. "They are a tough bunch to deal with."

"How's that?" Joe asked.

"Well," Windy said worriedly, "after our sales training meeting where we discussed how to meet such competition, I talked with some of those feeders. I told them that if they figured in their power, labor, depreciation, investment costs, etc., that they probably would find that they couldn't grind and mix on the farm as cheaply as we could do it for them."

"That's what we advocated," Joe said.

"But they won't consider those costs," Windy said. "All they consider is the grind and mix charge. They figure they can do it cheaper and save money. And when they get to mixing their own premixes, Joe, we won't get any of their business."

Joe smiled. "Windy, don't get discouraged. Right now there's a wave of enthusiasm about farm mixing. It'll die down somewhat when somebody comes along with a real cost analysis of the entire operation. Keep on with your sales approach—that we can do it cheaper. Keep mentioning labor, depreciation, investment, power and other costs, and the farmer will secretly begin to figure these out. He may not tell you, but he'll do it."

"You think so?"

Joe nodded. "Sure, farmers are curious just like anyone else. They want the answer. They want to prove you wrong. So they'll figure."

"They will?"

Case Study

"I'm quite sure. And we want to help them figure."

Windy really looked surprised. "How?"

Joe chuckled. "Well, Windy, do you think that there is any farmer among those who use grind-mix equipment who will let us make a confidential, thorough check of his costs, including those we have mentioned?"

"Well," said Windy thoughtfully,

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"maybe," his voice drifted off as he thought.

"For perhaps his own benefit, plus a gift of say ¼ ton of feed?"

"Absolutely confidential!"

Windy's brow was furrowed with thought. Then he slapped his knee.

"Say, I know the chap," he said. "Name's Bill Edmonds. Bought the Wilker farm four months ago. Inherited a farm mix equipment setup for his poultry flock. I think he'd do it."

Joe beamed. "When will you call on him again?"

"Wednesday. He's my third call on Route 4."

"Good," Joe said. "I'll drive behind you in my car that day, and you introduce me to Edmonds. I'll try to work out an agreement with him."

"Say, that would be something," Windy said happily. "I sure would like to get a case history like that. It would be sales ammunition."

"Provided we can show we're right."

"Yeah."

Want Actual Costs

"Regardless of how this cost analysis turns out," Joe said, "we want to know the actual costs. So does Edmonds."

"You seem so confident," Windy said. "Do you know more than you're telling me?"

Joe chuckled. "Windy, you're alert. You sense something. The other day I met an Illinois custom mill operator at a livestock barn. We got talking about farm mill equipment competition. He told me how he fought it in one instance."

"He did?"

Joe nodded. "When this farm mix equipment farmer phoned him and wanted his price on soybean meal, the dealer went out to see him. He asked the farmer if he could figure on supplying him with a grind-mix and delivery service, too. The farmer agreed. Well, this custom mill man showed the farmer he could process all his feeds for a couple of dollars less a ton than he could do it himself. And the farmer's labor wasn't even figured in."

"What happened?" Windy was big eyed.

"The custom man got the business. And it was considerable volume. By figuring in ingredient costs and other services, the mill man proved to the farmer he could do it cheaper for him and do a better grind-mix job."

"So you figure we can do the same?"

Joe nodded. "If we get the chance," he said softly. "No use sitting here worrying so much we get blisters, and no complete facts to work on."

"And if the facts are in our favor, do you think the farmer will allow us to use the complete cost analysis without his name?"

Joe chuckled. "Let's worry about his consent after we've made the analysis, Windy. One thing at a time. I have a hunch we've got something."

"So do I," grinned Windy. "I can hardly wait for Wednesday."

BUY IDAHO CO-OP

SANDPOINT, IDAHO—Two Sandpoint men, Anthony Verwolf and Wayne VanDenBerg, have purchased the Priest River Cooperative, Inc. The new operation will be known as Priest River Feed & Supply.

GFDNA Meeting Sites For '62, '63 Announced

WASHINGTON—The board of directors of the Grain & Feed Dealers National Assn. has officially announced approval of the convention sites for the 1962 and 1963 conventions.

The 66th annual convention in 1962 will be held in the Denver Hilton Hotel on March 21-23 for the entire membership. The Secretaries' Circle meetings will again be held on Monday and Tuesday of the convention week, March 19-20.

The board of directors has approved New Orleans for the 1963 convention site for GFDNA.

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DAWSON, MINN.—The Dawson Produce Elevator Co. held an open house here recently for its newly completed feed mill.

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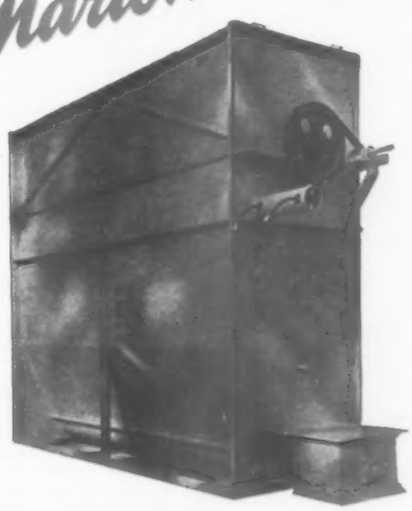

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Should Poultrymen Raise Replacement Pullets On Full or Limited Diet?

By P. W. Waldroup and R. H. Harms
University of Florida

Many poultry breeders have developed a system of feeding, supposedly styled to fit their particular breed or strain, and in many instances this has been modified by the individual producer to fit his conditions. This has resulted in each poultryman following a slightly different system of feeding replacement pullets.

No matter what his system, it will fit into one of three general programs. These types of feeding programs are: (1) Full feeding; (2) limited feeding, by limiting the amount of feed the pullets are allowed to consume; and (3) limited feeding by the use of a low energy-high fiber feed which is so bulky that a pullet cannot consume sufficient feed to grow at a maximum rate.

Considerable research has been conducted to determine the best method of feeding replacement pullets to be used for the production of commercial eggs. Reports from these experiments have not been in agreement. It is generally agreed that limited feeding will delay sexual maturity of pullets. This may be accomplished by limiting the daily intake of feed or by using a low energy-high fiber feed. It is controversial as to whether the delay in sexual maturity will affect rate of egg production, mortality in the laying house or amount of feed required to produce a dozen eggs. It is generally accepted that delaying sexual maturity will not affect size of eggs at any given age, although some workers claim egg size will be increased.

EDITOR'S NOTE: *The accompanying article is from the Florida Agricultural Experiment Station's Research Report. Reporting the research were P. W. Waldroup, laboratory assistant, and Dr. R. H. Harms, associate poultry husbandman.*

Since results from previous experiments on feeding replacement pullets are not in agreement, tests were initiated at the poultry department of the Florida Agricultural Experiment Station to gather more information on the effect of feeding diets containing various levels of protein and energy during the growing period, and to study effects of these diets on the protein and energy requirement of the hen during the laying period.

EXPERIMENTS—Commercial egg production-type pullets, grown in confinement, were used in the first experiment. A starting feed containing 21% protein and 945 calories of productive energy per pound of feed was given for the first eight weeks. At the beginning of the ninth week the pullets were randomly assigned to 20 pens, each containing 46 pullets, and duplicate pens were fed on each of the growing diets as shown in the table. These growing diets ranged from 700 to 1,180 calories of productive energy per pound, and the protein content ranged from 9 to 25%. At 21 weeks of age the pullets were housed in individual laying cages. An equal number from each growing treatment were placed on 10 laying feeds which varied in protein and energy content.

Difference in performance of the pullets fed on any of the growing diets was not affected by their receiving any of the various laying diets. Therefore, only performance as influenced by the growing diets is presented in the table.

Amount of feed consumed from 8 to 21 weeks of age ranged from 10.99 to 18.54 lb. per pullet. As the energy content of the growing diet was increased, less feed was consumed. In general, for each increase of 10 calories of productive energy per pound of feed there was a 1% decrease in amount of feed required to grow the pullet.

It may be noted that an increase in protein or energy content of the growing diet resulted in increased body weight at 21 weeks of age. Body weight was very closely associated with age at first egg. A change of approximately 18 grams in body weight resulted in a one day change in age at first egg. A delay in sexual maturity was attained by feeding of growing diets low in either protein or energy.

The total number of eggs produced during the 336 day laying period did not appear to be greatly affected by the growing diet. However, there was a trend for birds delayed in sexual maturity to lay fewer eggs. Size of eggs at any given age was not affected by the feed given the growing pullets.

SUMMARY—These data would indicate that self-limited feeds will delay sexual maturity. This includes limitation of energy or protein. Limitation of protein is proposed as a new method of feeding replacement pullets if delay of sexual maturity is desired. However, pullets full-fed a high energy growing diet produced equally as well as those grown on limited diets. Therefore, limitation of protein or energy is not recommended.

TABLE 1. Effect of Various Growing Diets Upon the Performance of Egg Production-Type Pullets

Growing diet (8-21 wk.) % Protein	Cal. prod. energy/lb.	Body wt. (21 wk.) (lb.)	Feed cons./bird 8-21 wk. (lb.)	Age at first egg (days)	Prod. 21-69 wk. (%)	Egg weight—age in weeks—(gm.) 24	40	69
9	700	2.55	18.54	173.9	65.4	47.8	60.3	61.0
12	700	2.70	18.15	168.5	66.9	47.6	59.3	61.0
16	700	2.76	16.35	167.0	65.6	48.0	59.6	61.4
9	940	2.14	10.99	179.4	64.9	47.3	60.0	59.7
12	940	2.73	12.64	168.6	67.4	47.7	59.4	60.5
16	940	2.94	12.31	163.8	67.2	47.2	58.7	61.2
20	940	3.01	12.09	161.3	66.1	47.8	60.2	60.9
25	940	2.95	12.07	160.3	66.1	48.1	60.5	61.6
16	1180	2.93	10.88	165.8	66.4	47.6	59.2	60.2
20	1180	2.98	10.57	160.0	68.4	48.0	59.6	61.3

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FROM COTTON TO EGGS — These Mississippi ladies are demonstrating Simpson County's Poultry and Egg Fesival motif of "From Cotton to Eggs." Left to right, they are Annie Mae Massey, Mississippi Broiler Queen; Lynda Walker; Billie Marie Blair; Sylvia May; Ida Mae Cliburn; Mary Belle Layton. Their appearance at the first annual Simpson County Poultry and Egg Festival was one of many highlights of the day's program.

Mississippi County Celebrates Poultry Industry Growth

MENDENHALL, MISS.—The poultry industry has shown phenomenal growth in parts of the South, and one example of such growth is found in Simpson County in Mississippi.

This county, which is now producing 220 million eggs annually, demonstrated the area's changeover from cotton to eggs recently with an elaborate first annual Simpson County Poultry & Egg Festival.

Sponsored by the Mendenhall Area Chamber of Commerce, the event was attended by about 1,500 people.

A luncheon, held in honor of the men promoting the development of the poultry and egg industry in Simpson County, was addressed by Dr. L. A. Wilhelm of the Quaker Oats Co., Chicago. Also on the luncheon program were T. G. Blackwell, president of the Mendenhall Area Chamber of Commerce; H. F. McCarty, Magee, president of the Mississippi Poultry Improvement Assn; Fred Adams of Mendenhall, who told the story of what the poultry and egg industry has meant to this area.

The festival pointed up the phenomenal growth of the poultry and egg industry in Simpson County since the first commercial laying flocks were established in 1955. In 1960, five years later, 201 producers of commercial eggs fed and managed over 1 million laying hens, and produced and marketed 18,369,000 doz. eggs for a total of 220,428,000 eggs.

$2,670,900 Payroll

J. F. Ponder, assistant county agent who played an important role in getting the program started in Simpson County, and was director for this first annual festival, pointed out that the poultry and egg industry in Simpson County means the equivalent of an industrial plant employing 600 persons with an annual payroll of $2,670,900. This remarkable achievement skyrocketed Simpson County into first place in commercial egg production among all counties in the South in 1960.

Other impressive statistics of the county's rapid growth in the poultry and egg industry are:

In 1960 there were 39 farmers who produced a total of nearly 9 million eggs for hatcheries which supplied broiler raisers with the baby chicks they needed.

The 94 broiler producers in the county last year fed and marketed 8,355,642 broilers. These birds average 3.7 lb. each at market time and weighed a total of 31,016,509 lb.

At average farm prices of 40¢ per doz. eggs and 15¢ lb. for liveweight broilers, the marketing of eggs and broilers totaled $12 million.

Counting 29 producers who raised pullets for the laying flocks, farm laborers and workers in allied industries, there were 538 people employed in the poultry industry in the county in 1960.

Biggest single item of cost was 70,000 tons of milled feeds worth at retail price about $6½ million. The payroll for farm labor, mill workers, truck drivers, service men and office personnel was approximately $430,000 for the year. The producers spent an estimated $30,200 for gas, electrical power and water. They have several hundred thousand dollars invested in buildings and equipment.

Cash payments to the 362 producers in 1960 under contract were about $800,000.

And last, but not least, added Mr. Ponder, Simpson County now ranks 15th nationally in egg production out of 3,068 counties in the U.S.

This information was gathered in a recent farm by farm survey and represents the most detailed and complete information assembled on poultry production and marketing in any county, according to Simpson County producers.

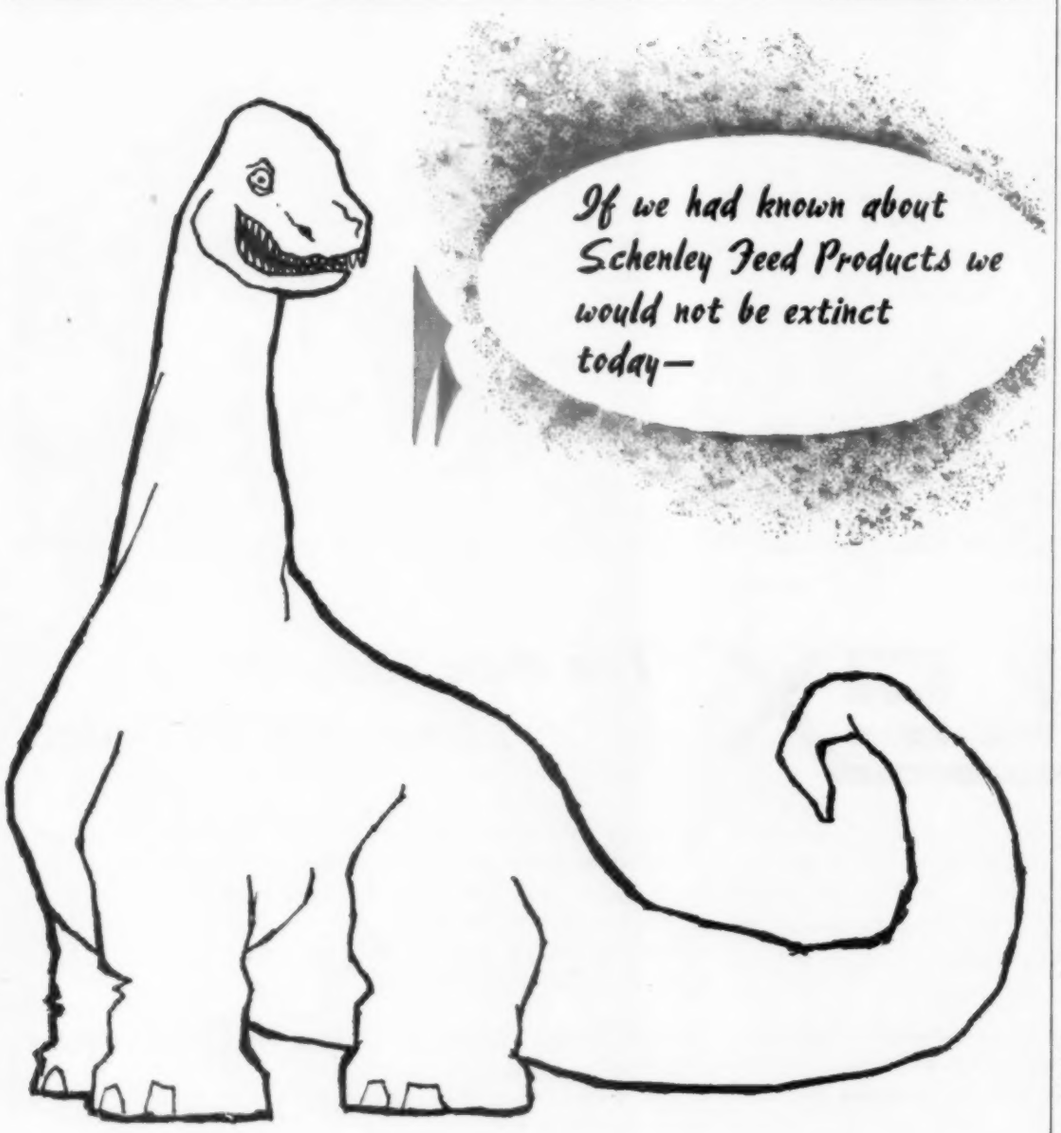
Contract Production

Most of the eggs and all of the broilers, were produced under contract with feed companies, other private corporations and farm cooperatives.

The farmers provide their own buildings and all labor. The contractors furnish the chickens, feed, medicine, other necessary supplies, market the eggs and broilers, and pay the growers the contract price per pound of broiler and per dozen eggs, or so much per laying hen.

Mr. Ponder said there has been a big change in the attitude of the farmers since the program was first initiated. In the beginning, he said, it was difficult to sign up the first five producers. And even after they had started building their houses many stopped construction because scoffing neighbors told them they "never would get the first check."

But all that has changed now. Two contractors alone have a waiting list of 150 farmers who want to get into the program.



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BEER, POP BOTTLES NOT IN CATTLE DIETS

MONTPELIER, VT.—One of the arguments in favor of a bill in the Vermont Legislature to ban non-returnable beer and soda pop bottles was that cattle were injured by eating the glass.

However, Dr. Clarence Jorden, Newport veterinarian, disputed this claim by representatives of farm organizations, stating that in 800 operations on cows that had eaten "hardware," he had discovered only one case of glass. And that came from a window pane, he said.

Merck Stockholders Told of New Products For Agriculture

RAHWAY, N.J.—Comments on animal health products were included in a Merck & Co., Inc., report to stockholders on sales and earnings for the first three months of 1961.

Henry W. Gadsen, executive vice president, reported that a new animal health product, an anthelmintic called thiabendazole, is now being tested in the U.S. and abroad. "This drug is effective in treating worm diseases of animals. We hope it will soon occupy a very important place in the health care of large animals such as sheep and swine," he said.

Mr. Gadsen said that Amprol, a coccidiostat introduced last October, has "met with such heavy demand from the poultry industry that production capacity is now being doubled."

Plant and production facilities for vapor-deposited silicon wafers are also being expanded, he said.

In other Merck & Co. business, Albert W. Merck was elected to the board of directors by stockholders. A son of the late George W. Merck, former chairman of the board and president of Merck, and a grandson of George Merck, who founded the company in 1891, Mr. Merck held various positions with the company from 1947 to 1959.

Fred Bartenstein, Jr., was elected by the board of directors to the newly created post of administrative vice president. He will continue to serve as general counsel of the company.

The firm reported that its consolidated net sales for the first three months of 1961 were $54,977,000, compared with $55,759,000 for the first three months of 1960. Net income after taxes was $6,160,000 for the 1961 quarter, equal to 57¢ per share of common stock outstanding, a decline of 17% from the $7,425,000, or 69¢ per share earned in the first quarter of 1960. Net income before taxes for the first quarter of 1961 was $11,960,000, compared with $13,825,000 for the first quarter of 1960.

John T. Connor, president of the pharmaceutical and chemical firm, said that earnings for the entire year 1961 should recover to approximately the 1960 level, as a result of new products and marketing programs. One such product is Elavil, a new anti-depressant drug, which Merck will soon introduce in the U.S.

Mr. Connor said that some additional authority for the Food and Drug Administration may be desirable, but that he is "completely opposed to the radical legislative proposals of Senator Kefauver."

"We are convinced that altering patent laws, for example, so that the inducements to engage in research are curtailed, would seriously retard our company and the drug industry, as well as medical progress. For one thing, it just doesn't seem fair to ask us to make available to foreign and domestic competitors the relatively few research successes we attain out of the countless projects we support," he stated.

Cattle Shipments For March Up 30%

WASHINGTON — Shipments of stocker and feeder cattle and calves into eight selected north central states during the month of March were up 30% from a year earlier, according to a report from the U.S. Department of Agriculture. Sheep and lamb shipments were off 25%.

March shipments totaled 402,000 head as compared with 309,000 a year before.

Of the total number of cattle and calves received in these eight states during the month, 149,000 moved through public stockyards and 253,000 were received direct. The direct movement was 63% of the total this March compared with 56% a year earlier, USDA said.

Cattle and calves shipped into these states during the January-March period totaled 1,190,000, up 24% from a year earlier.

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No. 7443—Feed Moisturizer

Introduction of the WaterMatic, a companion to the Feed-o-Meter and Milk-o-Meter, which adds the proper amount of water spray to each increment of feed metered by the Feed-o-Meter, has been announced by Technical Industries, Inc.

The WaterMatic is attached to the Feed-o-Meter and actuated by impulse of the feeding cycle to restore proper moisture balance to "air dried" feed grains and concentrates.

Company officials say that university studies have proven a precise relationship between the moisture content of feed and the rate of feed consumption. They claim that the dairy cow's rate of consumption can be increased a significant 50% and milking rate stepped up 25% by the addition of water to "air dried" dairy feed.

It is said that high producing cows, when fed low moisture content feed, lack sufficient time to consume the necessary amount of grain to meet nutrient requirements and keep up with milking parlor time schedules. The faster cows can eat their feed grains and concentrates, the faster they milk out.

The WaterMatic, in addition to restoring the proper moisture balance to "air dried" feed grains and concentrates, is also said to be ideal for including antibiotics, trace minerals and liquid feed concentrates.

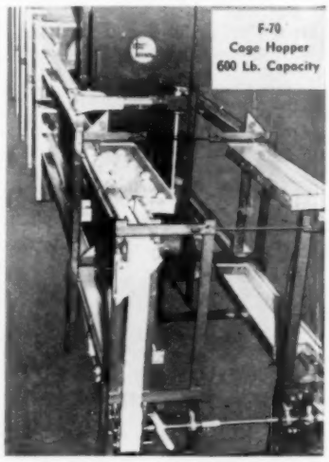
For additional information, check No. 7443 on the coupon and mail.

No. 7437—Automated Cage Equipment

Fully automated cage equipment is now being offered to poultrymen by the Keen Mfg. Corp. The systems feature 12 by 16 in. cages, automatic feeding, automatic egg collection and automatic manure removal under each deck of cages. Automatic waterers and ventilation are also included in the package.

Proper support of these systems is assured, says Keenco, by rugged stanchions, cross pieces and adjustable angle braces.

The system is serviced by the Keenco F-70 automatic feeder which features a V-trough and chain arrangement designed to conserve feed and move all the feed. Roll-to-Front cages are equipped with a stretch-proof egg gatherer belt which conveys eggs safely to collection trays. Acid-resistant steel scraper blades remove manure at both levels of the cage arrangement to a cross elevator or other depository.



For additional information, check No. 7437 on the coupon and mail.

No. 7439—Grain Roller

The Roskamp Huller Mfg. Co., Inc., has announced that it is now manufacturing a 16 in. diameter roll in 30 and 36 in. lengths.

Manufacture of a grain roller mill with 16 in. diameter and 42 in. length rolls was started last fall for grain processors who need large capacity flaking of steamed or dry grain.

The new 16 by 30 and 16 by 36 in. roller mills are said to be made of high quality steel with solid white iron rolls that are guaranteed for 10 years. The company reports that these smaller mills give less capacity, but with proportionate savings in the initial investment.

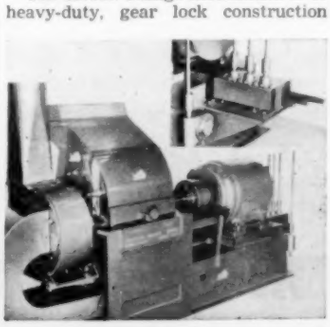
For additional information, check No. 7439 on the coupon and mail.

No. 7453—Remote Screen Change Mill

Development of a remote screen change hammermill called the Jacobson "Super" Ajacs-O-Matic, has been announced by the Jacobson Machine Works, Inc.

Said to be designed throughout for quick, sure action, the "Super" Ajacs-O-Matic offers a choice of screens with a simple, mechanical, remote screen change mechanism.

The screen change mechanism is of heavy-duty, gear lock construction with positive action. A geared reduction drive lowers, raises and locks the screen carriage in place. The large screen slot insures easy removal of screens, and is sealed from leakage by an interlocking closure plate.



Maximum flexibility in installation is said to be possible by use of universal joints for remote location of screen change controls.

For additional information, check No. 7453 on the coupon and mail.

No. 7440—Grain Cleaner

The U.S. Patent Office has granted a patent to Myers-Sherman Co. on its new Kwik-Kleen Vacuum Separator, a new type of grain cleaner.

Designed by Myers-Sherman as an accessory for its Grainvayor pneumatic conveyor, the Kwik-Kleen cleans the grain as it's conveyed without reducing conveying capacity.

It mounts directly on the Grainvayor and eliminates foreign material by vacuum action. Its permanent mounting eliminates all set-up time required by other types of cleaners, says the manufacturer.

Myers-Sherman officials say that in recent tests the Kwik-Kleen screened out rat and mouse pellets, insects, weevil dust, cob dust and other foreign material from the grain conveyed. In transferring 11,560 bu. of corn, 9,160 lb. of screenings were removed, upgrading the corn from sample to No. 2 with no loss in conveying capacity.

By removing foreign material during the conveying process, the Kwik-Kleen makes it possible, officials say, to reduce or eliminate dockage when trackloading.

For additional information, check No. 7440 on the coupon and mail.

No. 7450—Flavor Bulletin

Magnus, Mabee & Reynard, Inc., has announced the availability of a revised catalog that contains over 1,150 listings of MM&R flavors, aromatic chemicals, certified colors and other products, along with other technical information.

A number of the catalog's sections have been rearranged for easier reference. For additional information, check No. 7450 on the coupon and mail.

No. 7449—Recording Dry Feeder

A volumetric chemical feeder adapted for loss-of-weight recording has been announced by Wallace & Tiernan, Inc. The scale-mounted Series A-690 feeder with loss-of-weight recorder is said to control dry-chemical flow precisely and provide permanent records of feeder operation.

Feeder design assures uniform delivery at rates between 0.0045 and 2.8 cu. ft. per hour. A screw-type feed section prevents flooding, and built-in diaphragm agitators prevent arching of material in the hopper.

An adjustable knob controls feed rate, and a flashing light indicates proper operation. The amount of chemical fed during any desired period is read from 24-hour or seven-day

Send me information on the items marked:

- ☐ No. 7436—Handtruck
- ☐ No. 7437—Cage Equipment
- ☐ No. 7438—Egg Vending Machine
- ☐ No. 7439—Grain Roller
- ☐ No. 7440—Grain Cleaner
- ☐ No. 7441—Lift Trucks
- ☐ No. 7442—Decal Signs
- ☐ No. 7443—Feed Moisturizer
- ☐ No. 7444—Lighting Program
- ☐ No. 7445—Pellet Cooler
- ☐ No. 7446—Electric Vibrator
- ☐ No. 7448—Truck Bodies
- ☐ No. 7449—Recording Dry Feeder
- ☐ No. 7450—Flavor Bulletin
- ☐ No. 7451—Control Panel
- ☐ No. 7452—Meat Meal Report
- ☐ No. 7453—Remote Screen

COUPON NOT VALID AFTER 60 DAYS

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MINNEAPOLIS, MINN.

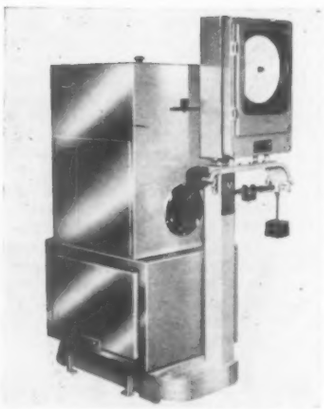
BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Feedstuffs

P. O. Box 67

Reader Service Dept. Minneapolis 40, Minn.



charts. A direct-reading register shows the amount of material remaining in the hopper at any time. To indicate hopper depletion, a visual alarm is provided.

The solution tank of the A-690, feeder with loss-of-weight recorder, is said to give thorough mixing. Water jets, or an optional mechanical agitator, help dissolve all the chemical. The feeder drive runs in an oil bath and removable panels expose the feed mechanism and solution tank.

For additional information, check No. 7449 on the coupon and mail.

No. 7438—Egg Vending Machine

The availability of the Deluxe T-Line Egg Vendor, an outdoor egg vending machine, which has separate coin mechanisms for four sizes of eggs, has been announced by Tobias Enterprises.

The egg vendor is equipped with automatic refrigeration and high humidity, and an automatic heater keeps eggs from freezing in cold weather.

The machine holds 100 doz. eggs in vending position, plus refrigerated storage for an additional 100 doz. eggs.

For additional information check No. 7438 on the coupon and mail.

No. 7436—Handtruck

A new handtruck has been introduced by Southeastern Manufacturing, Inc., and it is claimed by the manufacturer to be a significant development in handtrucks.

The truck features "roller conveyor action" which allows the load to be easily loaded and unloaded. Closer stacking of cartons and boxes is possible with the new truck. Loads do not have to be shoved by hand after unloading.

The truck is built of electrically welded steel tubing and is fitted with ball bearing rubber tires. Cost of the handtruck compares to ordinary handtrucks without the "roller conveyor action," says the manufacturer.

For additional information, check No. 7436 on the coupon and mail.

No. 7442—Point-of-Sale Decal Signs

The availability of information on point-of-sale decal signs for feed manufacturers has been announced by the Meyercord Co.

Decal signs, usually applied to the store window or glass door, offer one of the more effective devices for creating brand recognition at the all important moment just before the purchase is made, say company officials.

Dri-Mark decal signs, a product of the Meyercord Co., are pressure sensitive and require no water or moistening for application. Decal signs, says the company, are considered ideal because they can combine advertising with features dealers like, such as "thank you" messages, "in and out" signs, "store hours" and other utility features.

For additional information, check No. 7442 on the coupon and mail.

No. 7446—Portable Electric Vibrator

The Cleveland Vibrator Co. has announced introduction of a new portable electric vibrator for moving materials from bins, hoppers and trucks. Similar in mounting characteristics to railroad car vibrators, the RC-5 LSRR attaches with a cast iron wedge and bracket to permit dismounting.

The RC-5 LSRR can be lifted from its bracket mounting and moved wherever and whenever vibration is necessary. The bracket is welded to the side of the bin, hopper or truck. Company officials say that the RC-5

...with new STAPEL Pelletizing Binder

Pelleting has ceased to be an irritating production problem in a substantial number of mills — large, small, and medium-size — which are using this new binder as a standard ingredient in selected formulas.

They are getting a denser pellet that takes the punishment of mechanical handling all the way from the mill to the animal — occupies less space in storage and shipping — meets the tough requirements of modern milling, shipping, and feeding practices. Recycling of fines is reduced, plant efficiency increased. Pelleting of complete feeds becomes a more practical operation.

Stapel is a dry powder, identified technically as Lignin Extract. A by-product of a long-established, large-scale, year-around process, it is available steadily in quantities on a non-seasonal basis. Data sheet gives analysis of interest to your nutritionist, other technical details.

Consolidated recommends an experimental approach to the application of Stapel in your plant. Pelleting — a highly complex operation with some 40-odd variables (counting ingredients as one), and few if any standardized methods of measurement — is an art, and results are often unpredictable. There is no basis for broad or exaggerated claims, and we make none.

The fact is, however, that surprising results have been obtained in one plant after another, leading not only to adoption of Stapel in difficult "trouble" spots, but to extended applications on other formulas of less difficulty in the same mills.

The best way to find out for yourself is a mill trial. We shall be glad to give you the benefit of our experience in considering your own problem. Write or phone for data sheet, sample, and details of our mill trial offer. The coupon is for your convenience.

STAPEL BY Consolidated

Fill out and mail the coupon — or attach it to your business card

CONSOLIDATED WATER POWER & PAPER COMPANY
Jaro Holy, Appleton, Wisconsin — Telephone RE 3-4461 or
T. R. Edgerton, 634 Board of Trade Bldg., Kansas City 5, Mo. — Telephone HA 1-7260

Please send data and sample of Stapel Feed Pelletizing Binder, and information on your mill trial offer.

Name.....
Title.....
Company.....
Address.....
City.....State.....

LSRR eliminates the need for one type of vibrator for bins and hoppers, and another for unloading trucks. It becomes as useful as several permanent models that are used only periodically.

The RC-5 LSRR weighs 40 lb., and it can deliver an impact up to 275 lb. and 3,600 vibrations per minute. The bracket, which holds the vibrator, is 4⅝ in. high and 7/12 in. wide and weighs 15 lb. The vibrator is 7/12 in. long and, together with the wedge, extends 10 in. from the structure when mounted for use. A 9 ft. lead of heavy duty motor cable with a watertight disconnect plug is furnished with each vibrator.

The RC-5 LSRR is available for operation on 60 cycle, single or three phase current and 110, 220, 440 or 550 volts. For additional information, check No. 7446 on the coupon and mail.

No. 7448—Bulk Feed Truck Bodies

The Baker Equipment Engineering Co. has announced a new line of bulk feed truck bodies which are designed and manufactured to meet specific requirements of the bulk feed and grain industry.

The company is introducing five

new body models under the trade name of Scotchman. Company officials state that the Scotchman line incorporates convenience features developed from field needs observed by company representatives, and from specific requests and suggestions of customers.

It is said that the Scotchman line of five standard body types evolved from engineering prototypes, developed by Baker. Officials say that "custom fabricated additions to the line's standard equipment can be engineered into the basic units with ease, or single unit functions can be revised completely and quickly, eliminating costly pre-engineering and research."

The Baker organization is described as "the world's largest distributor of specialized truck equipment." It will display and explain new advances and efficiencies built into the five new body models at the American Feed Manufacturers Assn. convention.

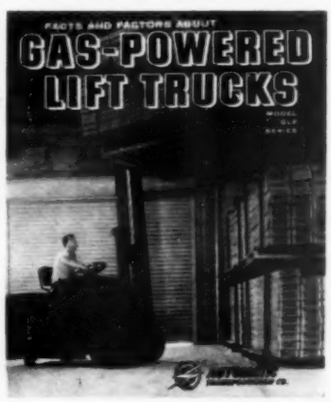
For additional information, check No. 7448 on the coupon and mail.

No. 7441—Gas-Powered Lift Trucks

The flexibility of gas power, plus the efficiency of electric drive offered in the GLF series lift trucks, is discussed in a new 16-page "How" booklet published by the Automatic Transportation Co.

Six pages of breakdown photographs are used to illustrate many of the GLF's features. Driver comfort and safety is shown, and how these factors help boost efficiency.

Five pages of application photo-



graphs of both standard GLF trucks, and specials with attachments, point out how typical loads are handled in a wide variety of industries and may solve a similar problem in different plants.

Basic specifications are shown for 13 standard models in the GLF line, giving dimensions in an easy-to-read table.

To obtain a free copy of the "Facts and Factors Booklet About Gas-Powered Lift Trucks," check No. 7441 on the coupon and mail.

No. 7444—Poultry Lighting Program

Heisdorf & Nelson Farms, Inc., has announced further development in its lighting program for growing stock, and the "subsequent, more profitable performance of layers."

The H & N "Step-Down, Step-Up" lighting program is described in a folder which gives an example of the extra profit obtained from a laying flock in a test conducted under the H & N genetic research program.

The folder outlines the procedures necessary to start the program, and shows the zones of latitude in the northern hemisphere and the corresponding time chart table used in lighting.

One of the advantages of the "step-down, step up" lighting program, the firm said, is that it is designed for use in any type of poultry house.

A comprehensive question and answer section is included in the folder. Also, an example is spelled out in four simple steps. The extra requirements to start the lighting program are light bulbs and a time switch.

The firm said tests showed the following advantages for birds grown under the H & N lighting program: (1) a significant increase in rate of lay about nine months of age; (2)

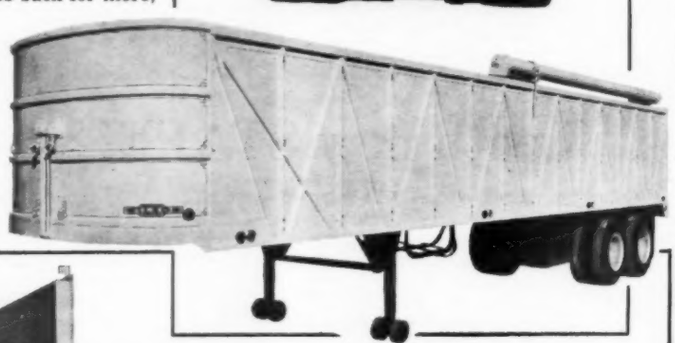
Unload this 1200 cubic foot GRAIN TRAILER *anywhere.. in minutes!*

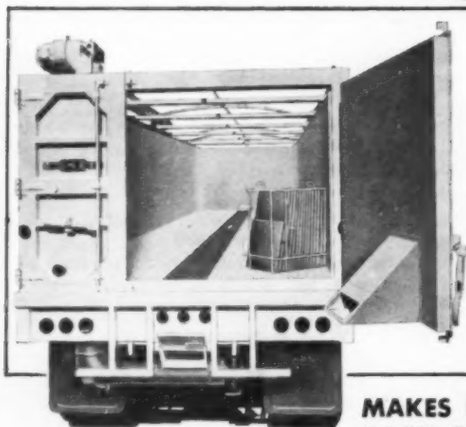
Here's total convenience and payload capacity unsurpassed by any other full-sized grain trailer! This easy-pulling modification of the production line WILSON 37' grain trailer features BOTH a 12" belt conveyor and an 8" elevating auger. Auger delivers at 400 rpm, rotates a full 360°, and will unload a full capacity of shelled corn in mere minutes! Proven "U" design, developed through WILSON pioneering in unit-construction, tames the toughest load stresses and bounces back for more, mile after mile!

20-Foot Auger and Full Length Conveyor Belt For Complete Grain Handling Versatility!

CHOICE OF POWER SOURCE

Auger and belt are operated with either PTO or Gas Engine. Reversible PTO makes belt loading of sacked or boxed materials a cinch. Gas engine drive gives complete self-contained power convenience and frees tractor during loading or unloading.



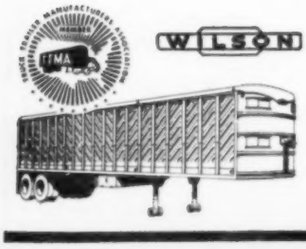


Full Length Belt Conveyor Eliminates Nearly All of the Shoveling!

The real work saving "heart" of this WILSON "Auger-Belt" grain trailer is the 12" wide belt floor conveyor. Only "clean-up" shoveling is required while grain is delivered to auger system or through FLO-CONTROL chute door in the rear. Convenient rear clutch activates belt operation.

Trailer is available in various lengths and capacities with belt conveyor only, or with complete belt-augering conveyor system. Other conveying systems are available to handle salt, lime and similar compacting materials.

MAKES UNLOADING A CINCH...GETS YOU BACK ON THE ROAD IN MINUTES!



WILSON

SINCE 1890 . . . a good name to have behind you!

WILSON

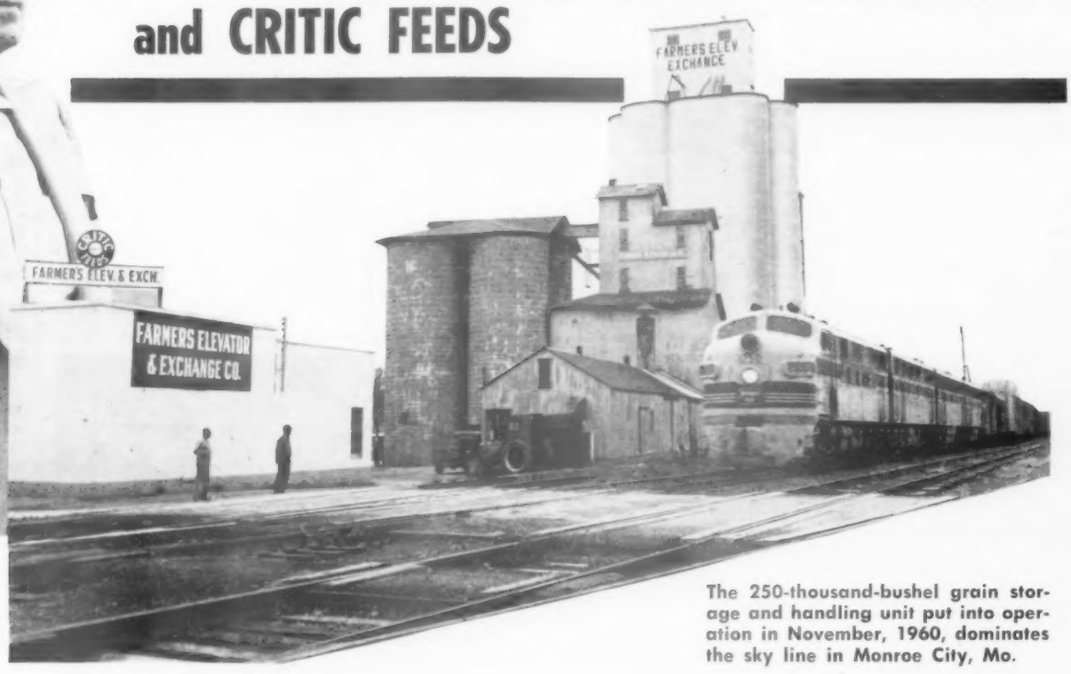
TRAILER COMPANY

General Offices - 2400 Leech Avenue

SIOUX CITY, IOWA

Two Standouts . . . in North Central Missouri FARMERS ELEVATOR and EXCHANGE and CRITIC FEEDS

Jay McCracken
Manager



The 250-thousand-bushel grain storage and handling unit put into operation in November, 1960, dominates the sky line in Monroe City, Mo.

Manager Jay McCracken says: *"Critic Feeds are a stand-out with us here in Monroe City."*

★ "Feed business is up a good 20% since we dropped two other lines and installed Critic exclusively."

★ "We are constantly striving to improve our service to feeders, so we soon will add Critic-Base Mixes to our line. We now use Critic concentrates in our grinding and mixing, but as soon as facilities are completed for bulk storage of ingredients, concentrates and finished feeds we will have a grain bank and a line of complete rations built with Critic-Base Mixes. We can then be even more competitive than we are now."

★ "The Critic advertising program is realistic . . . a great help to us. We've had several feeder and stockholder meetings with Critic help and they have been outstanding. Another help is the impact of the Critic road signs that are springing up all along the highways."

● **With a Critic-Base Mix Program you can make up-to-date complete rations from grains and ingredients readily available in your locality, thus saving freight and handling costs. The quality-controlled feature of Critic-Base Mixes will assure your customers of stand-out rations. The custom built, easy to follow formula charts made especially for you will assure you of a trouble-free mixing operation.**

● ***A Critic-Base Mix Program could be a New Business Catalyst for you, too . . .* and it is only a part of the whole concept of "help the dealer" plan developed by Critic. Farmers Elevator and Exchange is just one of the many solid grain and feed merchants who learned this past year that there are many helpful, pleasant and profitable things about a Critic Feed Franchise.**

CRITIC QUALITY FEED

Checked for Quality Every 15 Minutes

LEARN HOW YOU CAN BE MORE COMPETITIVE WITH CRITIC

for the *Greatest Grow* on earth

You May Call Us Collect (No Obligation, of Course)

THE BEARDSTOWN MILLS COMPANY • BEARDSTOWN, ILLINOIS

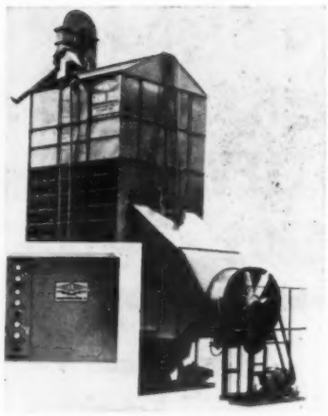
a significant reduction in mortality in the laying house; (3) an increase in egg size of about 1 oz. per dozen at seven to eight months, and ½ oz. per dozen at 11 to 12 months; (4) a tendency toward fewer blood spots; (5) a tendency toward thicker egg shells; (6) an increase in production of as many as 16 or more eggs per hen over birds raised in natural light, and (7) a delay in sexual maturity of two to four weeks.

For additional information, check No. 7444 on the coupon and mail.

No. 7451—Control Panel For Batch Drier

Shanzer Manufacturing Co. has announced that a fully automated control panel, combining a number of new operational and safety devices, has been incorporated into its 1961 Model 9 and Model 18 recirculating batch driers.

According to a company spokesman, the safety control functions include automatic shutdown in case of flame, fan or power failure.



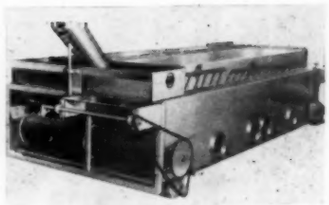
Automated operation is achieved in both temperature control and moisture reduction. The latter feature dries grain to a pre-determined moisture content, then automatically turns off the burner, but allows fan operation to continue until grain is cooled to desired temperature. The panel then shuts off the fan and sounds a signal horn telling operator that batch is ready for removal from drier.

For additional information, check No. 7451 on the coupon and mail.

No. 7445—Horizontal Pellet Cooler

Addition of a new horizontal pellet cooler to its line of feed processing equipment has been announced by Wenger Mixer Mfg. Co. The new 72 in. wide cooler is designed for installations requiring that the over-all length be held to a minimum.

Standard Model 72 is built in horizontal, single stage units or superposed, and in lengths from 10 ft. to 36 ft. The unit has adjustable air



control louvers in the plenum chamber and an oscillating pellet spreader. It also has a variable speed control for regulating the depth of the pellet bed and pellet retention time, plus fines discharge auger.

The manufacturing firm says that its new unit cools and dries pellets, from poultry pellets to range cubes, in the best possible manner, with a substantial reduction in fines in comparison to the number of fines produced in vertical coolers.

For additional information, check No. 7445 on the coupon and mail.

No. 7452—Meat Meal Report

The tendency to classify meat meal solely as a protein source comes in for criticism in a report prepared by C. W. Sievert, feed consultant, according to announcement by the National Renderers Assn.

In his report, entitled "The Relative Value of Meat Meal in Practical Feeds," Mr. Sievert explains that meat meal has important extra feeding benefits to start with that must be added to rations made from other protein sources.

He says, "Meat and bone meal, the official name for the 50% protein products, contains not only protein, but also a very appreciable amount of mineral matter derived from bone. Bone meal is a valuable and excellent quality source of phosphorus and calcium. In fact, it is the source for comparison when other phosphates are tested for quality and efficiency."

He further evaluates the actual cost of meat meal-formulated rations and those of comparable analysis made with vegetable protein sources and other required supplements. "In addition to furnishing the same feed values at lower cost, meat meal is also shown to contain more calories of both productive and metabolizable energy per pound," he says.

For copies of this report, check No. 7452 on the coupon and mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jottmg the appropriate number of the coupon and forwarding it to Feedstuffs.

No. 7378—Equipment leasing study, Foundation for Management Research.

No. 7379—Weigh hopper for vertical mixers, Sprout, Waldron & Co., Inc.

No. 7380—Bulk feed body, FMC Bulk Transport Systems.

No. 7381—Bag top printer, Bemis Bro. Bag Co.

No. 7382—Bloat control treatment, Dr. Roberts Laboratories and Nicholas of America, Ltd.

No. 7383—Vibratory feeder, Eriez Manufacturing Co.

No. 7384—Poultry medication, The Merck Chemical Division of Merck & Co., Inc.

No. 7385—Nutrient level card, Peter Hand Foundation.

No. 7386—Displacement blower, Sutorbilt Corp.

No. 7387—Hanging feeder, Oakes Manufacturing Co.

No. 7388—Feed computer, Nutrena Feeds.

No. 7389—Insecticide, Dr. Salsbury's Laboratories.

No. 7390—Bag-type container, West Virginia Pulp & Paper Co.

No. 7391—Air conveying systems, Sprout, Waldron & Co., Inc.

No. 7392—Automatic hog feeding

Typical symptoms of "staph" synovitis: turkey resting on hocks, wings spread, and unable to get up.

Albamix*

THE UPJOHN COMPANY
KALAMAZOO, MICHIGAN

(novobiocin) for treatment and prevention of "staph" synovitis in turkeys

THE UPJOHN COMPANY • Kalamazoo, Michigan
Dept. 953

Gentlemen:
Please send me your free folder on Albamix.

Name .....

Address .....

City ..... State .....

*Trademark

What's this man doing?

HE'S WORKING! ...THE EASY, BETTER DODGEN WAY

And saving money, too!

Saving money on handling costs, time and maintenance with an all-purpose Dodgen bulk body . . . in an easy one-man operation.

Dodgen really does a "two-truck job" . . . and the cost is low, both when you buy it and in terms of upkeep.

Ruggedly constructed of the finest heavy-duty steel, Dodgen bulk bodies offer selective unloading of all three compartments plus the maximum payloads that spell more profits.

Features *no other bulk bodies have* include a unique rear partition which swings down to form a self-unloading funnel, ball bearing trap doors, and the foolproof Dodgen swivel-spout auger system. Truly an all-purpose bulk body that will pay you to own and operate!

Bulk feed driver, Thomas McBurney of Hastings Hatchery says "This Dodgen rig is the best I've seen. It's easy to operate in all kinds of weather and works out real well for handling bulk and bags on the same trip."

Compare Dodgen quality, special features and cost with any others . . . you'll see why Dodgen sales have soared as the word gets around.

Take advantage of the five new regional Dodgen sales centers and mounting points. Let us show you all the reasons why a Dodgen bulk body means more profit and easier operation to you. Call today for free, no-obligation information at your nearest Dodgen office!

Dodgen

Call your nearest mounting station:

Rockford, Illinois
Phone WOodland 8-1966

Humboldt, Iowa
Phone Humboldt 1357

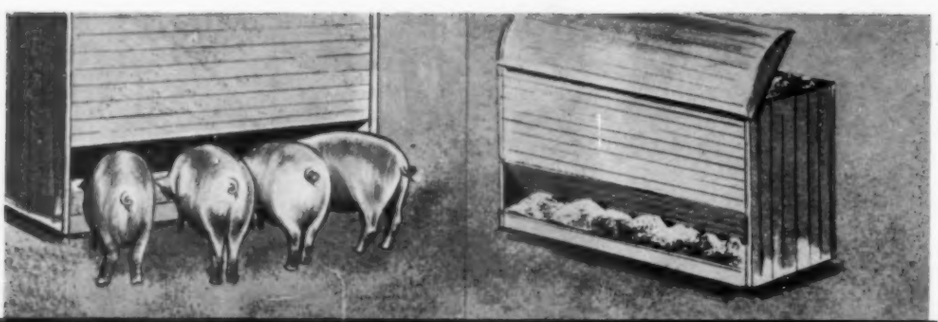
Excelsior Springs, Missouri
Phone MEdford 7-2700

Minneapolis, Minnesota
Phone KE. 3-4333

Fort Smith, Arkansas
Phone SUnset 3-3871

DODGEN INDUSTRIES • Phone 1357 • HUMBOLDT, IOWA

There is no substitute for
INTERNATIONAL—UNITED
Quality and Service
in FEED INGREDIENTS and BAGS



THIS FEED CONTAINS PURE CANE SUGAR — THIS FEED CONTAINS AN ARTIFICIAL SWEETNER

Cane Sugar Promotes Rapid Growth—Improves Your Sales

Feeders know that pure cane sugar increases palatability and energy value of their feed—gets livestock off to faster, healthier starts. Sugar in feed promotes rapid growth, earlier market weights.

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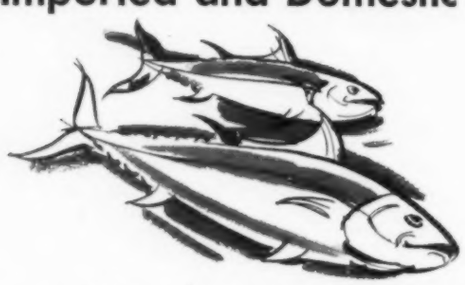

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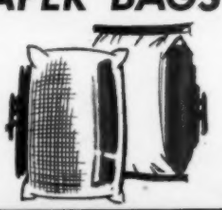

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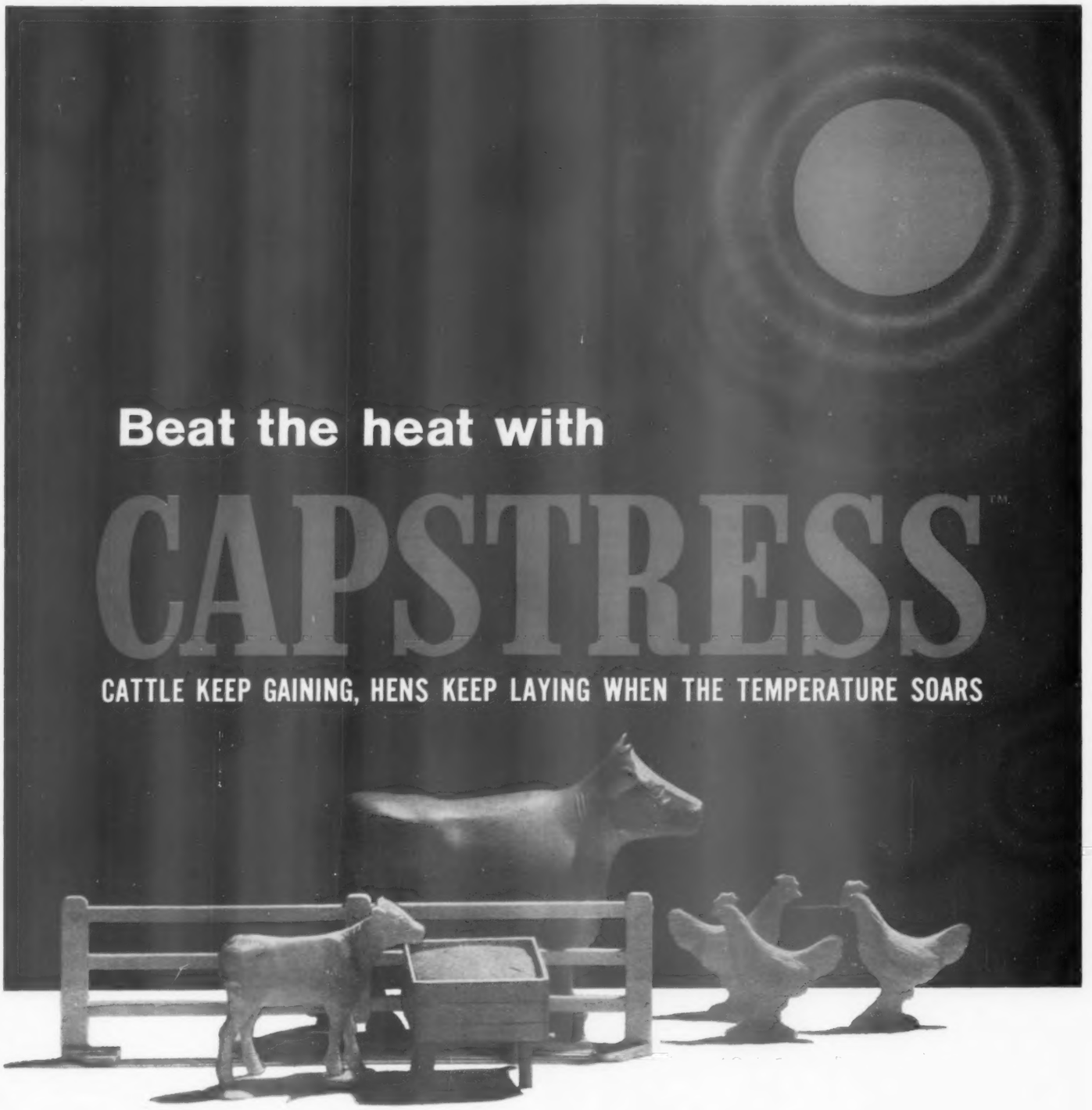

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Feed-Connected Disease Problems Of Livestock

By Dr. William L. Sippel

Florida Department of Agriculture

A Veterinarian Says "Over 98%" of Livestock Illness Cases Are Not Feed Related. And He Offers Suggestions on How the Feed Man Can Help Increase This Percentage and How He Can Identify Cases Which Are Not Related to Feed.

Something in the feed is one of the first things suspected by livestock owners when animals suddenly become sick. Fortunately in over 98% of the cases, the trouble is a disease or some other non-feed related cause. This paper will concern itself with the less than 2% of cases that are connected with the feed and offer two suggestions to help decrease the number of cases and to identify those cases that are not feed related.

SALMONELLA CONTAMINATION—One of the serious problems facing the feed industry is the problem of Salmonella organisms in the feed. These disease-producing germs can and do get into feeds.

The salmonellas are a group of intestinal organisms usually producing diarrhea, acute or chronic illness, with complete or only partial recovery or death. Carriers can result. We are all familiar with Typhoid Mary, a domestic worker who was a carrier of Salmonella typhi, the cause of typhoid fever in humans, who spread that disease to several families for whom she worked.

There are over 300 different types of salmonellas which often affect parts of the body other than the intestinal tract, producing so-called systemic or generalized disease.

The feed industries' problem with salmonellas is keeping them out of their products. The seriousness of providing chicken feed contaminated with S. pullorum or some other Salmonella that might produce a confusing reaction in the pullorum test, can be well appreciated by this audience. Feeds such as tankage, meat scraps, horse meat, slaughterhouse offal, feather meal, bone scraps, fish meal and other products of animal and poultry origin are the usual sources of the Salmonella contamination in mixed feeds. Animals acutely or chronically affected with these conditions are used in the manufacture of the above and contamination results.

Salmonella Isolations

Watkins reported isolation of Salmonella from 18.5% of 200 samples taken from Texas rendering plants.

Galton isolated Salmonella from 26.5% of 98 samples of dehydrated dog food purchased from stores in Jacksonville, Fla. At the national Salmonella typing center, Moran received for typing 555 salmonellas isolated from feeds of animal origin in 1958. At the Kissimmee, Fla., laboratory we are currently cooperating with the Florida Department of Agriculture and testing feed samples for salmonellas. Thus far, out of 447 samples, only 3 have been found to yield salmonellas. In 15 months, salmonellas have been isolated by our bacteriology department from 19 different cases involving various domestic animals, poultry and pets, but not necessarily of feed origin.

I'm sure many of you have been in rendering plants and similar facilities and seen the rigorous heating and processing given feed ingredients of animal origin. It is inconceivable that bacteria could withstand the heating, often under pressure, to which these products are subjected. In fact, they cannot. In surveys by Boyer in New York and Watkins in Texas, cooked vat samples failed to yield salmonellas. However, these germs were found in the raw materials before cooking and again in the product after it had been removed from the vats.

The problem is one of contamination of processed materials with unprocessed raw material. Sanitation is good in some rendering plants whereas in others it is a little understood and seldom applied word.

Moran states, "It is obvious that

EDITOR'S NOTE: Dr. Sippel is chief of the Florida Department of Agriculture's diagnostic laboratories section at Kissimmee. This article is from an address he delivered during the Florida Nutrition Conference at Gainesville.

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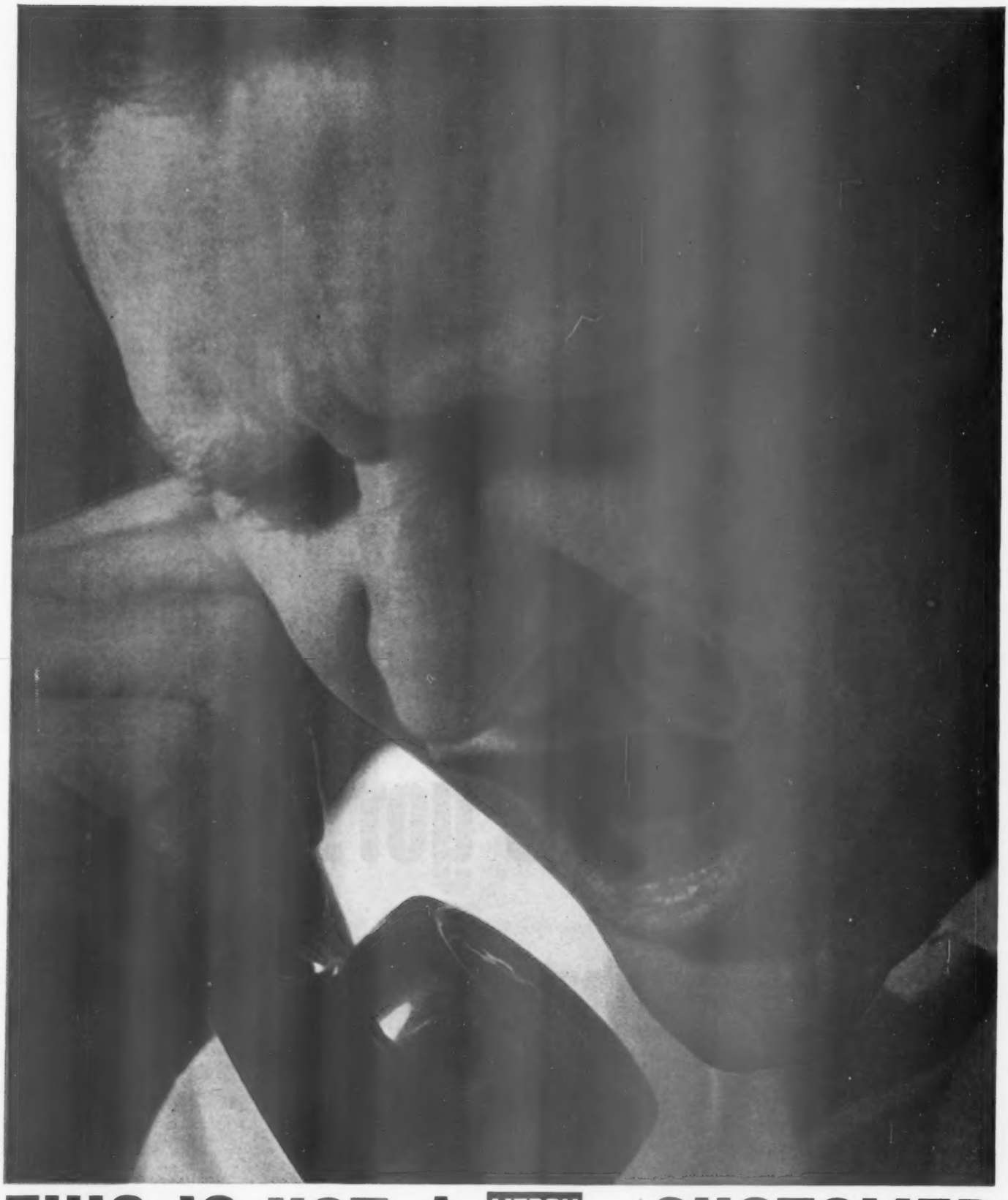

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control of salmonellosis can begin only after strict standards of sanitation, rigidly enforced, are applied to production of animal feed ingredients."

Suggested Protection

Our first suggestion relates to product quality control by feed compounders to protect against the presence of these germs in the feed. All companies do a certain amount of quality control on their products. The minimum is the proximate analysis required by most states.

Protection of your product against Salmonella contamination could be attempted by culture of each shipment of animal origin ingredients received and of the final product. The assistance of a bacteriology laboratory familiar with the necessary specialized Salmonella techniques for feed samples is necessary.

Infected rats are spreaders of certain types of Salmonella and feed must be protected against contamination during processing and storage in your mill.

Keeping one's own house in order is certainly a good place to start. The next place is to insist on receiving Salmonella-free ingredients. Suppliers of ingredients of animal origin will, in all probability, take steps to prevent recontamination of their product once the problem is explained to them, especially if this is done by the customers. Inasmuch as almost any surface in some of these plants constitutes a good culture medium for bacterial growth, decontamination may not be easy.

Symptoms and Treatment of Salmonellosis — Animals affected with salmonellosis may be acutely sick with high fever, diarrhea, vomiting (if able), loss of appetite and prostration. This stage may pass into a chronic stage resulting in an animal that is a poor doer, possibly with intermittent diarrhea. Cure of affected animals may be difficult. The nitrofuran group and streptomycin are drugs of choice.

MOLDY CORN POISONING—Another condition that can be prevented by proper quality control of ingredients is moldy corn poisoning. Research on this subject was completed in my department at the Georgia Coastal Plain Experiment Station and supported by a feed company. The trouble arose from certain molds growing on early soft corns, used primarily for hogging off. Some of these were purchased by feed companies and incorporated in swine, cattle and dog foods with characteristic toxic symptoms resulting. All purchases of corn should be carefully inspected for molds and contaminated ones rejected.

OTHER FEED-RELATED CONDITIONS—By delving into history, some examples can be cited of feed-related troubles that probably could not be detected by ordinary quality control due to the long period required for development of symptoms.

The story of trichlorethylene extracted soybean oil meal poisoning in cattle is well known to all of you. The toxicity of this product was described in Great Britain in 1916 and has since been rediscovered periodically in various parts of the world. Incidentally, the symptoms and lesions produced are almost identical to those seen in bracken fern poisoning of cattle. Approximately 90 days (more or less) are required for cattle consuming a normal amount of extracted feed to develop symptoms.

The bovine hyperkeratosis or X-disease problem, also known as highly chlorinated napthalene poisoning, was another feed man's nightmare. This resulted from an ingredient in grease used on feed processing machinery. Unfortunately, in one case, it occurred after a general warning had been sent to the feed industry by the federal government. Here again, prolonged exposure was required for animals to develop symptoms.

MANAGEMENT-FEED-RELATED CONDITIONS—Examples of conditions related to the feed but due to management practices can be cited. While the feed mixer or distributor has no responsibility in this type of case, it is essential to recognize them for what they are.

Salt poisoning and so-called protein poisoning or indigestion are two examples.

The so-called "hot meals" which contain up to 25% salt can cause this trouble. The use of this type of feed as a supplement in winter is gaining favor among cattlemen. Swine are also subject to salt poisoning. Salt-starved pigs are sometimes turned into a new field containing a salt block. They will partake liberally of the salt, but sometimes will develop symptoms of salt poisoning before they find the water in their new location. Animals must have adequate water available if on a high salt intake. If water is not provided, alarming symptoms of central nervous sys-

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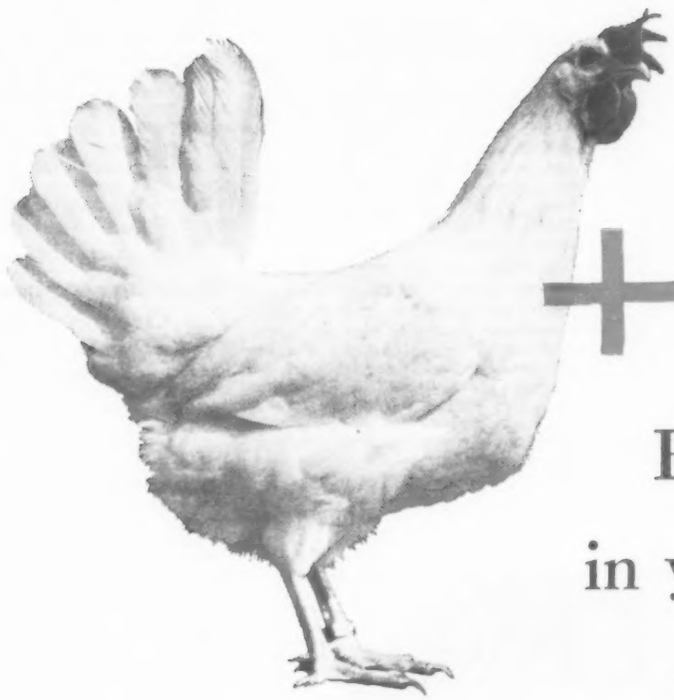

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tem disturbance and possibly death will result.

If animals that have not been receiving grain feeds are suddenly given large quantities, they will often overeat and develop acute indigestion, possibly symptoms of founder and often die. This has unfortunately been called "protein poisoning" which is a misnomer, as high protein content feeds are not poisonous. Cattle can eat straight cottonseed meal without trouble if they are accustomed to it gradually. Possibly this type of indigestion is the result of the rumen flora being not able to suddenly care for large quantities of this type of feed.

INFECTIOUS DISEASES—To return now to infectious diseases, it may be desirable to mention a few of the diseases that commonly affect calves.

Many conditions of calves are marked by diarrhea. This symptom possibly causes the owner to suspect the feed as the cause. Coccidiosis and internal worm parasites are examples of diseases that can be controlled by proper management. The so-called Auburn portable pen system will control these as well as other conditions by keeping the calves away from the parasites and other diseases. Overfeeding results in so-called white scours that can usually be controlled by decreasing the milk or other feed. A newly recognized condition called virus diarrhea can produce alarming symptoms in a herd. Adults as well as calves are affected. This disease is present in Florida and in many other states. At present, there is no good treatment or vaccination.

Calf barn pneumonias are common diseases. These are caused by viruses, bacteria or merely improper positioning of the nursing pail during feeding, resulting in inhalation of milk and mechanical pneumonia. These may or may not be accompanied by diarrhea. The primary symptom is rapid, shallow or open mouth breathing. Pneumonias, especially those of long standing, have serious effects on weight gains.

Disease-producing strains of the common intestinal germ called the Colon bacillus are now being recognozed. These cause trouble in calf barns and in human hospital nurseries, in which they are spread by attendants. Again, the solution lies in proper sanitation. This group of organisms is a natural to be incriminated, along with Salmonellas, in feeds of animal origin when techniques for their identification become more generally applied.

A PREVENTIVE STEP—Finally, for my second suggestion, I would like to recommend to feed manufacturers that you retain an experienced veterinarian to help you out of those difficulties where your product is blamed for a condition actually caused by a disease or to spot those rare cases when some ingredient has found its way into your feed in abnormal amounts, or as a foreign material, before its damage has spread too far. Some of you already have such an alliance and I know have found it very beneficial.

Our laboratory at Kissimmee stands ready to work with your veterinarian in getting to the bottom of any cases needing laboratory assistance. Most of you are probably already familiar with our branch poultry laboratories and their desire to be of assistance to you in your poultry disease problems. We hope you will not be so unfortunate as to need our services, but if you do please call on us.

Chairmen Announced For Oregon Groups

PORTLAND, ORE. — The appointment of Rod Wissler, Chase Bag Co., here, as general chairman for the 31st annual convention of the Oregon Feed & Seed Dealers Assn., to be held in mid-March, 1962, has been announced by Jim McDowell, association president. Mr. Wissler served as program chairman for the 1961 meeting, and succeeds Hal Hardin, Willis Small Feed Co., Eugene.

Assisting Mr. Wissler in planning the 1962 meeting, are: Program, Chuck Frazier; housing, Hank Eder; entertainment, J. C. Jones; cocktail hours, Bud Cook; finance, Bill Stoll; reception, Brian Gillespie.

Promotion and publicity, Matt Gilles; seed committee, Bob Rodgers; women's activities, Lee Olsen; luncheon facilities, Bob Seufert; banquet facilities, Gil Cook; registration, Russ Inman; fertilizer committee, Gene Koko, and Old Timers committee, all association past presidents: Leon Jackson, Howard Hadley, Dan Hogan, Sr., Ray Maier, Bill Johnston, Charles Epps, Hugh Stoll, Fay Malone, Wally Tischer and Willis Small.

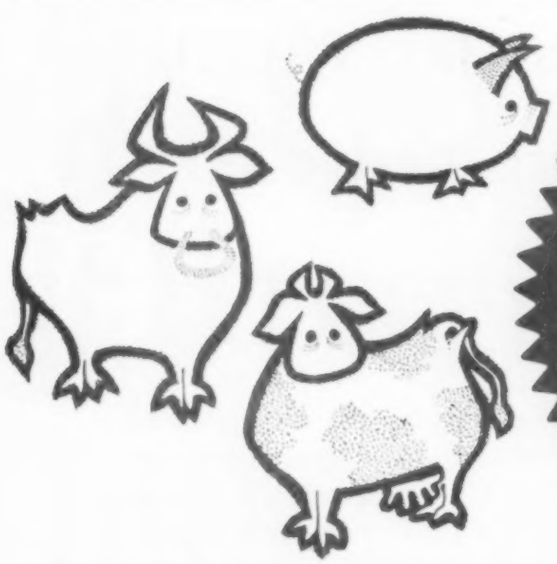
Hatchery Dedicated

SILOAM SPRINGS, ARK.—Cobb's Pedigreed Chicks, Inc., held a dedication and open house at its new hatchery here recently.

After a tour of the new facility, guests were treated to a chicken barbecue.

Officials from the firm's national headquarters in Concord, Mass., attended the events. They said that the new hatchery was established here to produce Cobb White Rock breeding stock for other hatcheries and integrated poultry operations throughout the midwestern states.

Harrison S. Arthur, who has almost a quarter of a century of experience in the poultry industry, is manager of the new facility. Charles Jones is supervisor of sales and service.



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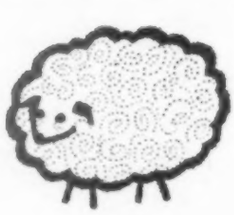

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CONVENE AT OTTAWA—Representatives of the Canadian Feed Manufacturers National Assn. and the Canada Department of Agriculture who met recently at Ottawa to exchange ideas on interpretation and practical use of research findings include, from left:

First row—C. H. Jefferson, chief of section, feedstuffs division, CDA; E. E. Feden, CFMA president; W. N. Hendrick, CFMA secretary; A. J. Scott, CFMA vice president, and C. R. Phillips, director of feedstuffs division, CDA.

Second row—Dr. A. S. Johnson, associate director of program, animal research branch, CDA; Dr. W. J. Pigden, chief, nutrition section, research branch, CDA; Dr. J. H. Hare, CFMA nutrition committee; C. L. Stevenson, supervisor, feedstuffs division, CDA; F. H. Hicklin, CFMA nutrition committee chairman; Dr. F. Whiting, director of program, animal research branch, CDA, and I. Jackson, CFMA public relations committee chairman.

Canadians Exchange Research Use Ideas

TORONTO—Ideas on how the feed industry might interpret and make practical use of various research findings for the benefit of Canadian farmers and feeders were exchanged at Ottawa during a recent meeting of officers and committee chairmen of the Canadian Feed Manufacturers National Assn. with senior officials of various branches of the Canada Department of Agriculture.

The session, one of a series arranged by the association, included discussions between the association's nutrition committee and officers of the department's production and marketing branch who are responsible for formulation of the revised Canadian Feeds Act which is to become operative by early fall.

Object to Including Feed Additives Under Color Additive Law

DES MOINES—A number of veterinary drug companies have sent the Food and Drug Administration letters protesting a portion of the proposed administrative regulations under the new color additive law, according to an Animal Health Institute bulletin.

The part of the regulations in question would include in the definition of a "color additive" an "ingredient of an animal feed which by its action through the biological processes of the animal is capable of imparting color to the meat, milk or eggs of the animal, whether or not the ingredient has additional nutritive functions . . ."

Objections to this provision, AHI said, were submitted by the Pharmaceutical Manufacturers Assn., Dr. Salsbury's Laboratories, Abbott Laboratories and Grain Processing Corp.

PMA said there is "no evidence" that Congress intended the color additive law to cover feed additives.

Dr. Salsbury's told FDA that the definition is "unnecessarily restrictive" because many feed additives "tend to enhance or restore natural 'biological processes' which impart to recipient animals the 'color of good health,' that is, redder combs and yellower shanks, beak and skin in poultry." The company said that vitamin K imparts color to anemic chickens and livestock, and the antibiotics can improve color — noting that many of these feed additives are already covered by other sections of FDA's law.

Dr. Salsbury's also was quoted as follows: "If strictly enforced, this part of the regulation would rule out the use of such natural feed ingredients as alfalfa meal, which imparts through 'biological processes,' yellow color to egg yolks. Corn gluten meal and even yellow corn would be eliminated as feed ingredients because these, through 'biological processes,' impart yellow color (carotenoid pigments) in the skin, shanks and other integumentary tissues of poultry."

Abbott noted that the color additive law specifically exempts agricultural chemicals that promote development of natural color in plants as a result of physiological processes and said that feed additives should be similarly exempted.

Grain Processing, which objected to the definition, has filed a food additive petition for dried algae meal in chicken feed to enhance the color of egg yolks and broilers. The company said it considers the product, A-Zanth, as a food additive rather than a color additive.

AHI said there is no charge by FDA for filing a food additive petition; an application for listing of a color additive requires payment of a $3,000 fee.

Cincinnati Club Elects New Officers

CINCINNATI — Alex Steel, Kentucky Chemical Industries, Inc., was elected chairman of the Cincinnati Feed Club April 24 during a four-hour evening cruise on the Ohio River aboard the Johnston party boat. He succeeds Lucian A. Garner, Quaker Oats Co., Lawrenceburg, Ind.

Other new officers are: Co-chairman, Harley J. Aylor, John F. Young Co.; secretary-treasurer, Dr. Lawrence Carpenter, Distillers Feed Research Council, and directors for two-year terms, Paul Butz, Cooperative Mills, Inc., and A. J. McGregor, Kentucky Chemical Industries, Inc.

Eighty-two members and guests enjoyed a buffet dinner and a varied entertainment program during the evening.

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Manitoba Reports Cases of Panic In Laying Flocks

WINNIPEG, MAN.—Cases of panic in laying flocks in Manitoba have been observed recently and the cause cannot be explained immediately, according to G. C. Hodgson, associate professor of poultry science, University of Manitoba.

Little is known concerning the exact cause or precise cure. "It may result from the cumulative effect of several stress factors imposed by housing or other management practices," he said.

Flocks afflicted with the condition appear to be in a highly nervous state. They panic on the slightest provocation, hiding under feeders, waterers or in nests. Some fly blindly against the wire pen partitions. Others mill around on the floor in a crouching posture as though in search of shelter.

"Panic symptoms were observed in March among 1,800 layers of a commercial Leghorn strain," Prof. Hodgson said. These birds had been laying for about five months. The flock, located near Winnipeg, was owned by a successful poultryman with many years of experience.

Panic Described

"On entering the pen, which had slatted floors, intense excitement was prevalent among the birds from one end of the house to the other, some actually 'hitting the ceiling' while others endeavored to seclude themselves wherever possible. Following this flurry of hysteria, the birds resumed normal activities," according to Prof. Hodgson.

During the periods of relative quietness, the presence of visitors and talking, did not appear to bother them. But suddenly, as if by a prearranged signal, the birds would again panic and the reaction was repeated.

Prof. Hodgson said this would happen every 15 or 20 minutes, whether anyone was in the pen or not.

An examination of individual birds showed they were in good physical condition, but when handled, they continually trembled and emitted loud "squawks" characteristic of birds in fear or pain. There was no indication of feather eating, cannibalism or severe moulting in the flock, although egg production had been steadily declining.

While cases of panic are on the increase, they are not common at present.

Advice to Producer

If panic or hysteria appears in a flock, Prof. Hodgson advises:

"Take immediate action to relieve some of the stress the birds may be under. This may be done in many ways, such as reducing hours of light, increasing floor area and feeding space per bird, adjusting ventilation to provide greater air supply, altering room temperature and checking the ration for adequacy."

Formulas Available

LAFAYETTE, IND.—Formulas for starter, grower and layer or breeder rations for both chickens and turkeys are contained in Mimeo P-70, "Formulas for Poultry Rations," recently revised by Roy Roberts, Purdue University extension poultryman.

Mr. Roberts points out the rations contain from 78 to 93% of a combination of yellow corn and soybean meal. "Purdue experiments have shown that soybean meal, when adequately supplemented with minerals and vitamins, is just as good a protein supplement as animal products," he said.

Indiana residents may obtain a copy of Mimeo P-70, "Formulas for Poultry Rations" without charge by writing the Agricultural Publications Office, AES Building, Purdue University, Lafayette, Ind.

Name 2 Managers

EL MONTE, CAL.—New district managers for Clayton Steam Generators in the southern California and the Pittsburgh-Cleveland-Buffalo areas have been announced by Neal Ballingall, sales manager of the steam generator division of the Clayton Mfg. Co., El Monte.

Paul Moore will headquarter in Pittsburgh and supervise sales and service activities of Clayton distributors in Cleveland and Buffalo.

William B. Stoehr will work with Clayton steam generator distributors throughout southern California and Arizona.

NEW FACILITIES

BEATRICE, NEB.—New facilities, totaling an investment of $14,000, have been installed at the Farmers Cooperative Elevator Co. here. They include a hay shredder, bulk bins and Prater molasses blender and 2-ton mixer.

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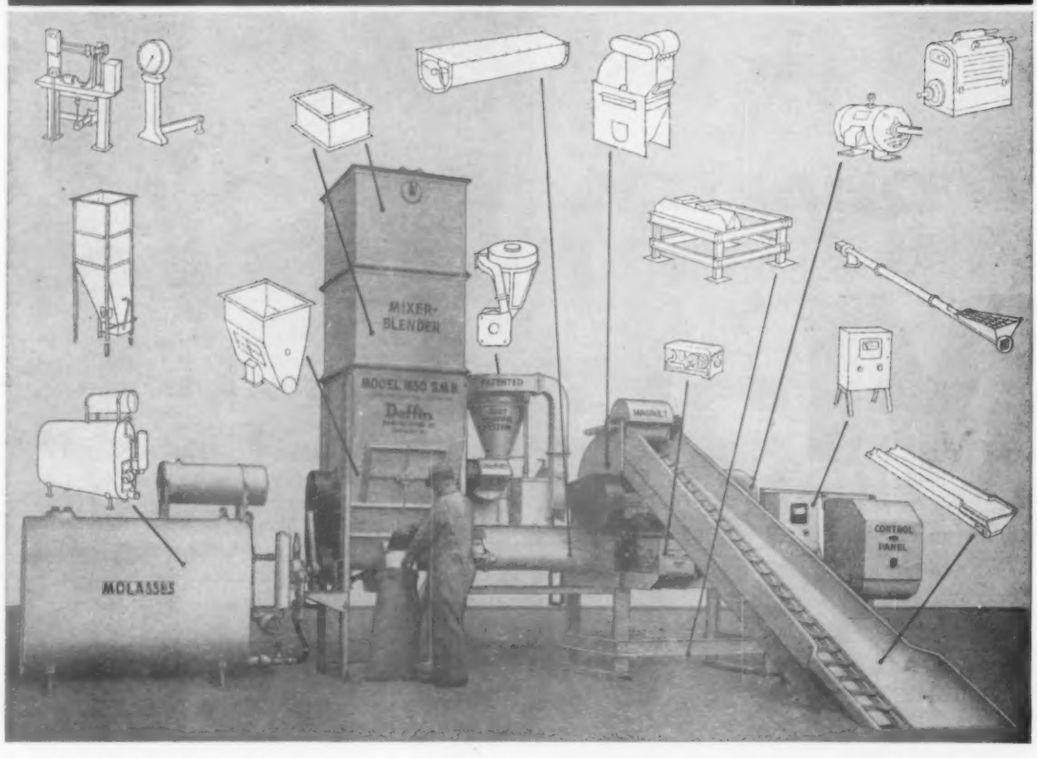

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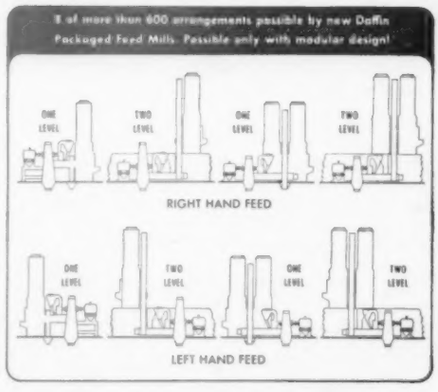

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Texas Cage Clinic Analyzes Economics of Culling, Stresses Vitamin Adequacy, Amino Acid Balance

By A. B. KENNERLY
Special Correspondent

COLLEGE STATION, TEXAS — "Whatever system is used for culling, the poultryman faces the possibility of two errors," Dr. B. E. Williamson, Louisiana State University, told the estimated 300 persons attending the Cage Clinic at Texas A&M College March 29. "These two errors are: (1) The poultryman may cull a bird too early, before her potential production is reached; i.e., he may cull a potential good layer, or (2) he may cull too late, thus wasting both feed and cage space.

"Theoretically, there is a time, for each layer, at which her exclusion by culling would contribute toward the greatest net profit to the flock," the agricultural economist continued. "Highest accuracy in culling would be achieved if every hen could be culled at that optimum point. In some cases, this would be before the bird was placed in a cage, since some hens never pay for feed cost."

A perfect system of culling probably will never be devised since it would require perfect knowledge of future prices, costs and number of eggs that each hen would lay, Dr. Williamson observed. However, if we apply our present knowledge we can vastly improve our culling procedure.

There are two situations which require a different approach to culling, he said. One situation exists when we do not have enough replacements available to fill all cages. The other is when we have adequate replacements available. Both depend on knowledge as to future rate of lay.

Future Rate of Lay

"Before we enter into the mechanics of culling let us see how we predict future rate of lay. This, I think, is the key to successful culling," Dr. Williamson observed.

"The usefulness of any indicator of future lay in arriving at the most profitable culling decision is limited by: (1) The probability of classifying an actually good prospective layer as unproductive, (2) the probability of classifying a poor prospective layer as a good layer and (3) the length of the period needed to arrive at the decision.

"Many producers use a specific period of time, usually one month in length, as a basis for predicting future production of caged layers. They assume that this test period adequately represents all months in the laying cycle.

"We found in our Louisiana study that the production of a new layer during the first month or two was not an accurate basis for predicting future rate of lay," Dr. Williamson continued. "We took records from the third month of production and compared them with average monthly production for the next six months.

"Relationship Is Not 1 to 1"

"Although there is a fairly good relationship between one month's production and future lay, the relationship is not 1 to 1. For example, if we picked a layer which laid seven eggs in a month, we could not say that she would average seven eggs in the future. From our study she would average 8.5 eggs per month For below average rates of lay, the future rate would have to be adjusted up. For above average rates of lay the predicted future rate of lay would have to be adjusted down.

"It stands to reason that if you select a bird that laid 28 eggs in a 28-day period her future production would be lower than 28. The opposite thing can be said for a bird that laid no eggs in a 28-day period."

In predicting future production for a layer, Dr. Williamson noted, the poultryman is confronted with variability of layers between months, of different ages, of different breeds or strains and finally between layers. Another thing which hinders, at present, is the relationship between one month's production and future lay is not 1 to 1.

"A Hazardous Job"

"Until more research is done on predicting future rate of lay of caged layers, culling will remain a hazardous job," Dr. Williamson said. "Without fairly accurate predictions of future lay we have no basis for culling. If we cannot perfect some better method of prediction of future lay, cages cannot be justified only on the basis of culling.

"Once we have predicted future laying rate for a bird (we are interested in past lay only for prediction purposes) one point is clear: If the layer is not expected to pay for feed costs she should be culled."

Dr. Williamson offered the following formula for figuring the number of eggs necessary to cover feed cost:

$$\text{Number of eggs necessary to cover feed cost} = \frac{\text{Lb. of feed eaten per bird per period (around 7.5 lb. per 28-day period)} \times \text{Feed cost in cents per lb.}}{\text{Cents per egg}}$$

This formula is applicable even if the cage must be left empty, he said.

After these layers are culled the producer is confronted with another situation if replacements are available. Here the producer must (1) keep a layer that is returning a profit over variable cost such as feed and medicine or (2) cull the layer and replace it.

"Any bird expected to show a profit over feed cost would be culled only when net profit is expected to be greater by replacing the old layer with a new one," Dr. Williamson noted. "This decision hinges on the likelihood of the new layer paying the

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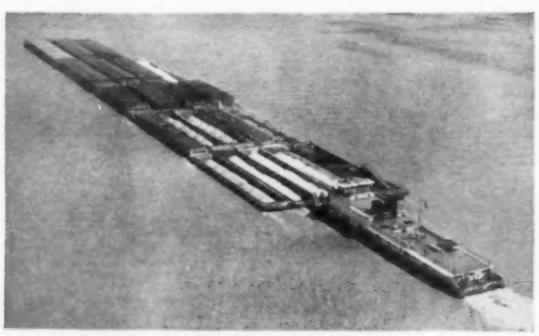

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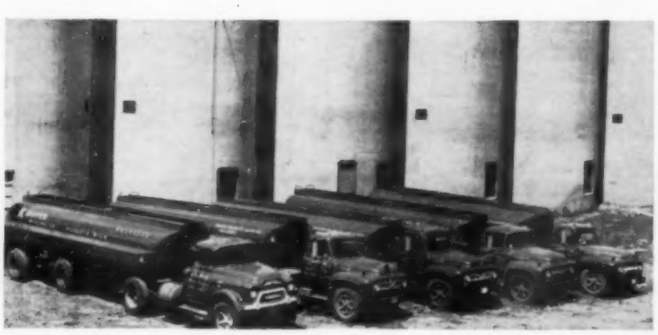

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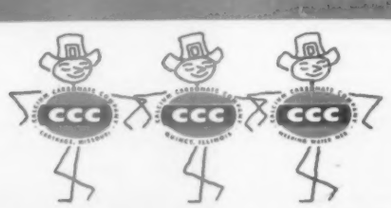


THE THREE PURITANS symbolize the three CCC quarries —in Quincy, Illinois, Carthage, Missouri and Weeping Water, Nebraska—so called because of the high purity of the deposits.

ROLE OF APPETITE STUDIED

LOGAN, UTAH—Appetite appears to play a large role in an animal's ability to gain weight, according to tests conducted at Utah State University here over the past four years.

The four year studies were directed by Dr. Doyle Matthews, head, department of animal husbandry, under a grant from the Kennecott Copper Corp.

Dr. Matthews said that cattle men from all over the state brought animals to USU for the research program. All animals were started at a given weight, all conditions were standardized, and the animals were weighed intermittently until they had gained 300 lb. The only non-controlled factor was the individual animal's appetite, Dr. Matthews explained.

Some animals gained 300 lb. in 100 days, while others took 300 days to gain equivalent amount. The results show there is a great difference in individual animals and that many characteristics are highly heritable, Dr. Matthews concluded.

replacement differential (cost of replacement minus salvage value of cull) and still earning a larger net profit than the old layer."

NUTRITION PITFALLS—Dr. J. R. Couch, Texas A&M professor of poultry science, recommended that poultrymen not try to raise young birds too fast on rations too high in protein and energy. "Be sure that the ration has adequate levels of vitamins along with zinc and manganese," he cautioned.

For layers, he recommended a 17% protein minimum in rations and prevention of fatty liver disease with adequate levels of choline, vitamin B_{12} and vitamin E.

"Nutritionists and poultrymen sometimes have a tendency to be penny-wise and pound-foolish in formulation of laying feeds," Dr. Couch reminded. "The best method of preventing fatty liver disease is to have adequate levels of vitamins in the laying mash."

Cage layer operators experience losses, particularly in the hot, summer months, due to poor egg shell quality, he said. The losses are traceable to an increase in the percentage of cracked and checked eggs. "These losses can be stopped in large measure by using 3 to 3.5% calcium in the laying mash from May 1 through Oct. 31," Dr. Couch advised.

PROTEIN-ENERGY LEVELS—Dr. J. H. Quisenberry, head of Texas A&M's poultry science department, discussed experiments on minimum protein levels that will keep egg production high.

"Researchers have learned that the protein level is not an adequate measure of efficient laying rations," he said. "Minimum protein level depends on amino acid balances. Use of high levels of milo in laying rations requires either a high amount of protein or amino acid supplementation, methionine and lysine in particular.

"Factors which have been demonstrated to be associated with the minimum protein level in laying diets include energy level of the diet, body size of the bird, rate of production, environmental temperature and amino acid balance of the diet."

FRESH FANCY QUALITY EGG PROGRAM—Discussing the Fresh Fancy Quality Egg Program which became official Sept. 15, W. R. Jenkins, extension poultryman, Federal Extension Service, reminded the Texans that "this is no time to use tags which are mysterious or abstract."

"Fresh Fancy Quality indicates that the eggs so identified were produced and marketed under controlled optimum conditions and meet the highest quality standards of the U.S. Department of Agriculture," Mr. Jenkins stated. "It is a quality control program for eggs based on proper conditions on the farm and the handling of the product.

"We hear many references to specification buying especially in light of the reduction in number and increase in size of poultry flocks and the decreased number of buyers for eggs. In other words, fewer buyers secure eggs from fewer producers. This means larger purchases from greater distances. Confidence and dependability are the watchwords of this and any other product where these two factors are concerned. With proper designation and well-defined and understood standards we get more uniformity upon which we can depend."

He explained that Fresh Fancy Quality eggs qualify on the basis of Haugh unit score for a sample of eggs from each shipment plus certain management practices on the farm. The Haugh unit ranges from 0 to 110 and is based on the height of the albumen at the edge of the yolk and the weight of the eggs in the sample. Top quality eggs score from 72 to about 100 Haugh units.

The management and marketing requirements are frequent gathering; rapid cooling; separate packing by flocks; minimum Haugh unit score of 72 on a moving average; sampling by government graders; removal of inedible, checked and poor shelled eggs; 10-day expiration date on retail shelves, and records kept by government graders.

BUSINESS MANAGEMENT—Chance decisions and slipshod record keeping are rapidly becoming things of the past in modern cage layer production, according to John Randolph, business manager of Delight Egg Farms, Hope, Ark.

He said the business and record keeping side of poultry needs as much or more emphasis than the production side. "Hardly any business has failed because of keeping too many records," Mr. Randolph said.

Profit margins are getting so slim, he said, that decisions must be right the first time. "A thorough knowledge and understanding of all the facts connected with a business enterprise should be the manager's goal," Mr. Randolph noted. "The chief source for such information lies in his accounting records. Our organization has 300,000 hens. If we reduce the cost of an item by 0.1¢ per dozen we reduce our costs by $6,000 per year.

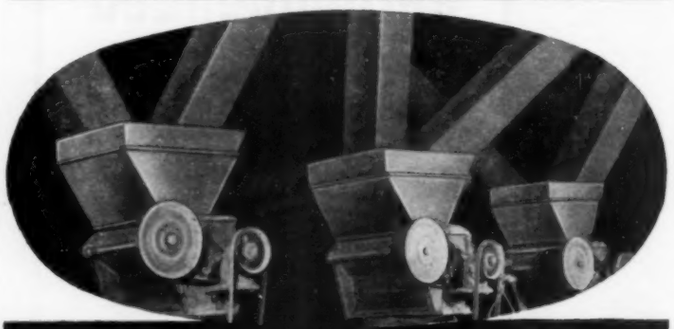
System Described

"Our chart of accounts has 19 items used in the calculation of egg costs. This division of costs into 19 classifications is calculated further on the basis of cost per each dozen of eggs produced and cost for each hen in production. In addition to these 19 'cost of production' items, we have an additional 19 classifications into which our expenses for egg handling and processing are divided. These costs are spread on a per dozen basis and cover items such as supervision, direct processing labor, cases, fillers and flats, egg cartons, rent, utilities, depreciation, repairs and maintenance.

"We have a procedure under which we get a complete financial report each four weeks. We know what our costs are in each accounting period. As we move along we should be able to predict our costs at least 30 days in advance with a high degree of accuracy. Such information will permit us to put our finger on problem areas. We are not always able to solve these problem areas but at least we know of their existence.

"We are now in the process of developing weekly profit and loss statements. We think these statements will help us materially reduce the time lag between the identification and definition of a problem and the proposed solution to that problem. We think such weekly information will also help us to be more precise in our determination of the proper time to sell old hens.

"If I were to make a recommendation, it would be that all egg enterprises with 10,000 or more hens employ the services of a certified public accountant. I would make this recommendation on the basis that it is essential for each business manager to not only know his position today, but it is essential that he train himself for a larger opportunity that lies ahead. It takes years to develop a satisfactory accounting system and a satisfactory relationship between



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the accounting advisory people and the business manager.

"I recommend this relationship be established too soon rather than too late," Mr. Randolph concluded.

PROSPECTS FOR THE EGG INDUSTRY IN THE SOUTH—Southern markets offer good prospects for the commercial egg industry, according to Dr. E. P. Roy, agricultural economist at Louisiana State University.

"Contrary to popular belief, there are several ways to market table eggs, each of which has its place and profit opportunities if it is worked right," Dr. Roy told the poultrymen. "For example, the available markets include selling table eggs at the farm direct to consumers; using vending machines at the house or at places outside the farm; having regular egg routes; selling eggs at a central depot such as an industrial plant, or operating an egg farm in conjunction with a retail place of business such as a cafe, local grocery store and the like. Those kind of markets do not require large sized flocks in order to make a satisfactory living. Of course, the egg grower has to be a good sales person, a good grower and a good businessman. Those markets probably will not require any kind of contract growing but instead will remain largely in the hands of independent egg growers."

A second series of table egg markets pointed out by Dr. Roy include direct selling to retail food stores; eating places such as cafes, and to dairy plants.

"These markets require larger sized flocks to keep them supplied," he said. "And probably they will see some contract production develop, but independent egg growers can retain some of these markets if they will tailor their operations to fit the needs of these markets.

"For example, some of the local grocery stores may form co-ops to purchase their eggs and other groceries, and the egg grower would have to be in position to supply them or else lose the market to an egg packer."

A third series of markets involve institutions such as schools, colleges, hospitals, clinics and prisons. "If these institutions are small and privately-operated, the smaller, independent egg grower can capture and retain some of these markets," Dr. Roy said. "If these markets are large-sized and publicly-supported, the chances are that the small independent grower cannot supply them because state-federal wholesale procurement grades are used and the small operator is unable to handle these accounts."

A fourth series of table egg markets he mentioned involve the wholesale egg packer either totally independent in his egg supply, partially integrated or totally integrated either by the packer owning his own layers and/or employing payment contracts to growers, Dr. Roy said. Smaller-sized flocks will have increasing difficulty in selling to these markets.

Still another series of marketing outlets involves the use of cooperative corporations composed totally of egg growers, of egg growers and integrators, or of dealer-integrators by themselves.

"This type of structure permits everyone, both grower and dealer, to remain independent, but they pool their supplies together in order to market more efficiently," Dr. Roy explained.

"Such corporations then attempt to act as a packer and go direct to chain stores and other outlets. This is a type of marketing which merits both growers and dealers.

"In any case, the independent egg grower or independent dealer should analyze his markets so that the gaps which the chain stores create or overlook can be filled with the produce of independents."

Credit and Capital

Credit and capital problems are paramount in today's poultry business, Dr. Roy noted. He said independent egg growers face at least two money problems: One of long-term fixed capital (3 to 7 years) and one of short-term operating capital (less than 3 years). "Long-term fixed capital rather than short-term capital is the big problem facing independent egg growers," he said.

Agencies used for obtaining long-term capital are private banks, Production Credit Assn., Federal Land Bank Assn., Farmers Home Administration, individuals and other sources.

"Independent egg growers are having difficulty obtaining this capital because many local agencies do not understand the egg business and remember it only as a backyard flock business producing pin-money," Dr. Roy stated. "Sometimes these local agencies prefer to invest their money in enterprises they consider safer.

"Obtaining operating capital is not too difficult since trade credit provides the bulk of it. The independent grower must stand alone in negotiating for both the fixed and operating capital while the contract grower stands with other partners in negotiating for fixed capital and needs little operating capital.

"Money problems of dealers are different. Because of their many joint ventures, they are better able to acquire operating capital through banks and trade credit. However, their fixed capital position is sometimes difficult. In some southern states, bond issues floated to induce industry and backed by the credit of the property owners have resulted in building of facilities which otherwise may have been difficult to construct. In other cases, dealer companies have to go to the 'public' in order to obtain enough capital through stock sales. This latter trend will no doubt continue. The simple fact is that it takes an ever-increasing amount of capital to produce a dollar of net income.

"Sound financial planning and management will be necessary if the poultry industry is to meet its ever-increasing finance problems. Factoring of accounts receivable, joint risk ventures, public corporations in place of family ventures or partnerships are some of the techniques that may have to be used to meet these problems. Dealer-cooperatives may be a wise move in some cases.

"When capital is tight and management problems are too much for one dealer, and when a plant is under-utilized, the formation and operation of cooperative corporations or of regular corporations would be a wise and beneficial venture among three or more dealers. This would strengthen each dealer's individual operation with a minimum of capital investment, lowered cost of management and more efficient plant operations, especially if dealers are near one another."

Dr. Roy stated that one idea which needs changing is that everyone has to get big or get out. "This is not true," he emphasized. "It is more important to manage properly what one has rather than to expand without correcting fundamental errors in management."

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Grind, Mix Seminar Planned By Kent Feeds

MUSCATINE, IOWA — Over 300 Kent Feed dealers from six midwestern states are expected to attend a grind and mix seminar at Hawkeye Downs in Cedar Rapids, May 17.

The seminar will feature exhibits of milling equipment by over 30 major manufacturers. Included in the display will be bulk tanks, hammermills, mixers, hoists, scales, roller mills, shellers, driers, bulk trucks, portable mills, etc. Also represented at the seminar will be mill engineers and feed mill construction companies.

Problems involved in grinding and mixing, portable milling, bulk handling and grain bank operations will be discussed by panels composed of Kent dealers. A study of the costs and profits in grinding and mixing operations will be presented by O. W. Joiner, vice president and general manager of Kent Feeds.

A movie, "Problems of Bin Flow," produced by the Butler Manufacturing Co., will be introduced by Art Stegner, bulk storage products manager.

The exhibits will open at 9 a.m. May 17, with the program scheduled to start at 10 a.m.

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Effectiveness of Oiling Quality Eggs Described at Annual Purdue Egg Day

By DAVID D. JACKSON
Purdue University

WEST LAFAYETTE, IND.—Over 250 poultry producers and allied industry representatives attended the recent ninth annual Purdue Egg Day held on the Purdue University campus here.

Dr. W. J. Stadelman, Purdue poultry products scientist, opened the program with a report on egg quality research which has just been completed showing that for greatest effectiveness in maintaining egg quality eggs should be oiled within 24 hours of lay, preferably within six hours. It was also told that under certain conditions oiling on the farm prior to in-plant washing can also work nicely in retaining quality.

"How the Private Veterinarian and His Laboratory Serve the Commercial Poultryman" was presented by Dr. Carey M. Parrett, Milford, Ind. This practitioner pointed out the service that the private veterinarian can render in these complex times. He discussed some of the disease problems found in the hatching, brooding and growing periods. He emphasized to the group that "no one can diagnose every disease every time." The complexity of poultry diseases today leaves us with many problems yet to be solved, he commented.

"The Fresh Fancy-Quality Controlled Egg Programs" held an important spot on this program. Harry Truax, president, Indiana State Egg Board, discussed these programs in general, briefing those present on the objectives and the possible expected results that may be obtained. Charles Manwaring, Mentone, and Fred Dearmin, Odon, both Indiana State Egg Board members, explained briefly the state and federal "Fresh Fancy-Quality" programs. Mr. Manwaring told that the state egg board has now made available a similar quality controlled program for producers within the state who do not desire to participate in the federal program. Quality requirements and procedures are nearly identical under the two programs, so that the end product should be comparable, he said. Mr. Dearmin discussed the federal program which has now been available since 1959 and stated that some of the field work was conducted in Indiana in cooperation with Purdue University.

Farm Program's Effect

"The Prospective Farm Program and Its Effect on the Egg Industry" was the title of the keynote address given by J. Carroll Bottum, assistant head, Purdue agricultural economics department. This economist pointed out that with the new farm program, feed and livestock including poultry prices will be about 10% higher during 1961 and 1962 than during the previous year. These predictions will depend upon the amount of participation in the new farm program. It is estimated that farmers will take part somewhere between 25 and 75%, and as an estimate Mr. Bottum put it around 50% or above. If 50% or more take part it will make the price supports effective, resulting in a 10% increase in costs of feed and eggs, he stated.

Dr. R. L. Kohls, Purdue agricultural economics department, gave the outlook for 1961-62. Here he pointed out that during the past 10 years Indiana egg production has fluctuated between 2.3 and 2.4 billion eggs. There has been an upward trend in total U.S. production, with the Hoosier percentage contribution declining slightly. Indiana prices will continue to follow the U.S. pattern closely, he noted. Dr. Kohls further mentioned that Indiana's changes have been more rapid than other midwestern areas, and within the state egg production has continued to become more regionally specialized. In conclusion, this forecaster pointed to the fact that the trend toward larger specialized producers is making it necessary for them to sell their eggs on a particular market and not wait for a buyer to come along as has been common in the past.

New Products Shown

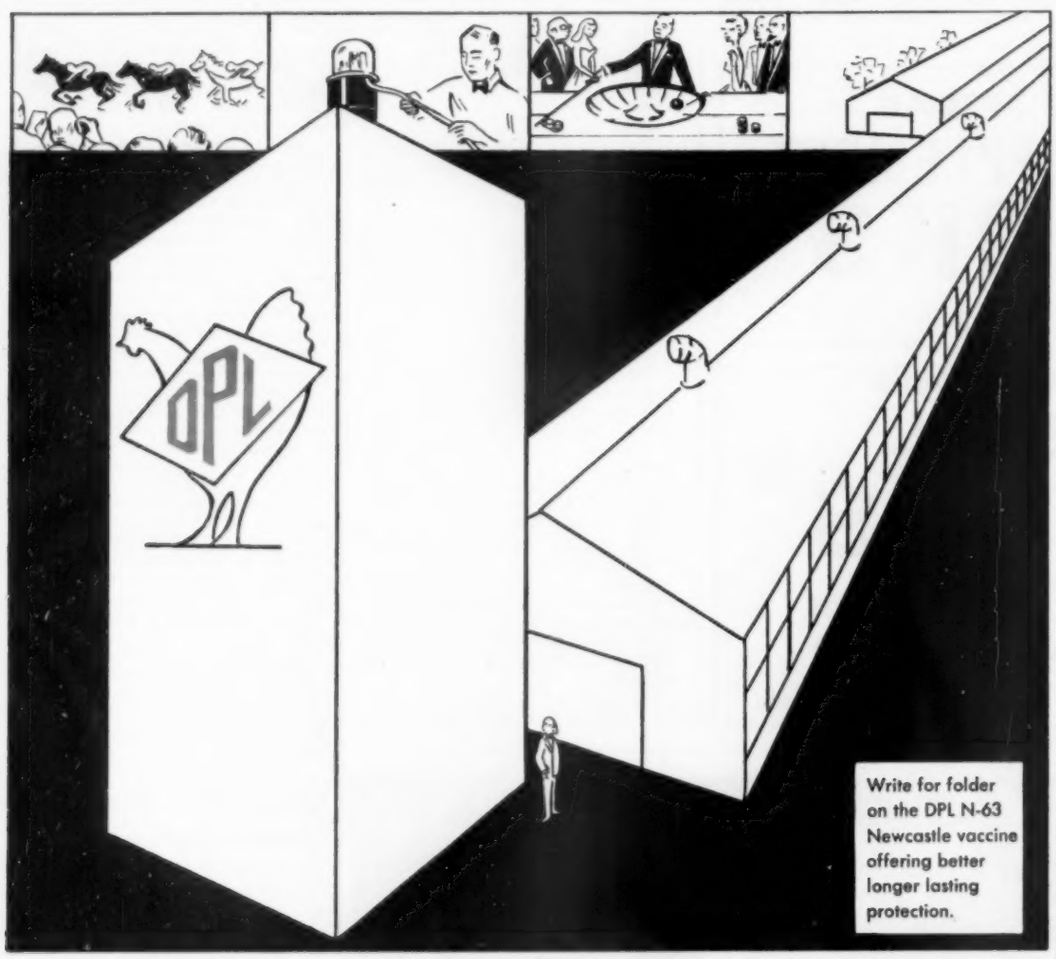
An egg luncheon was held at noon along with an exhibit of new egg products which highlighted this event. This consisted of displays denoting the status of new egg products and showing examples of items now available on the market and in the laboratory, as well as on the test market. Items exhibited included frozen French toast, instant scrambled eggs, egg dip (smoked), pineapple egg drink, egg Cantonese and egg cookies. An Indiana packer also exhibited and gave out samples of new, quick-frozen egg omelets now available for the institutional trade.

The afternoon program opened with Clayton M. Cook, Frankfort, chairman of the Indiana Egg Council, holding a short business session and telling those present about the egg council.

Carroll Eiler, poultryman from Warsaw, Ind., and president of the National Egg Council and director on the Poultry & Egg National Board, gave those present some up-to-date information on the promotional activities of the two organizations which he represents. The new budget that PENB is operating on this year was explained. Mr. Eiler said that progress is being made. Also, he welcomed suggestions that he could take to the egg council and/or PENB. Colored slides were used to illustrate the recent promotional activities conducted in the Hoosier state during March, "National Egg Month."

Started Pullet Panel

"Headaches and Heartbreaks of the Started Pullet Program" was the title of a panel discussion moderated by J. W. Sicer, Purdue extension poultryman. Members of the panel included J. R. Sallee, Warsaw, Ind., Ralston Purina Co.; Robert W. Brumbaugh, Darke County Farm Bureau Co-op, Greenville, Ohio; R. W. Detwiler, Steckley's Mill and Hatchery, Kendallville, Ind., and Vern Leeka, McMillen Feed Mills, Boonville, Ind. Each of the panelists represented concerns that are actively in the started pullet business and they discussed the problems from many angles. A discussion was held by the group telling how many started pullets were being grown under their supervision. Mr. Brumbaugh stated that his organization never started pullets unless they had a firm order for them to be delivered at a specified time. This was not the case with all



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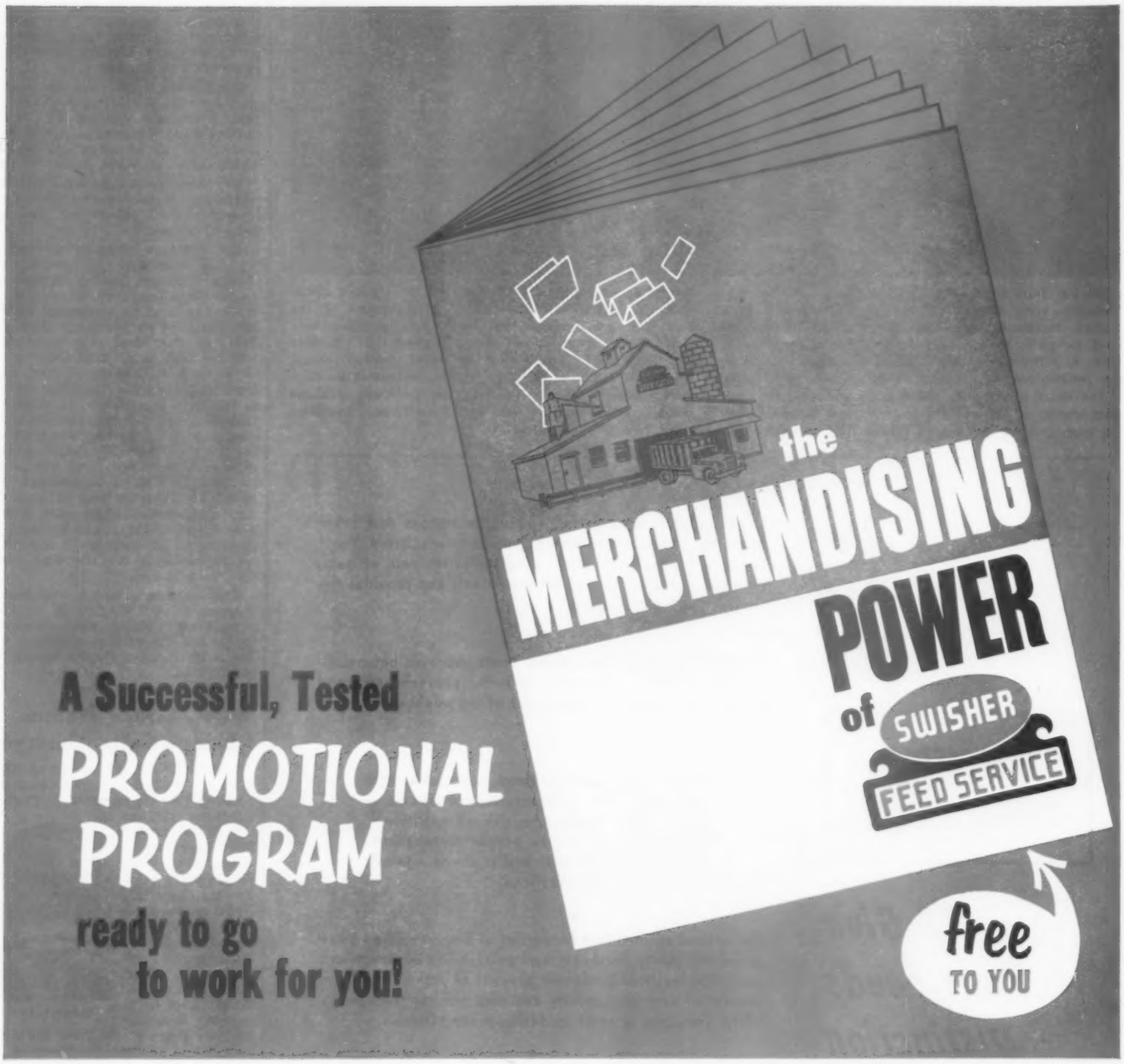

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PURDUE EGG DAY—Eggs were no doubt the topic of discussion here. Above, left to right, are: Charles Manwaring, Mentone, Ind.; Harry Truax, Indianapolis, and Fred Dearmin, Odon, Ind., all members of the Indiana State Egg Board, and Dr. J. Holmes Martin, head, Purdue poultry science department. Mr. Truax is president of the board and Dr. Martin was chairman of the morning session of the ninth annual Purdue Egg Day. The egg board members discussed "Fresh Fancy-Quality Controlled Egg Programs." At the right is a panel group which discussed "Headaches and Heartbreaks of the Started Pullet Program." From the left, panelists are: J. R. Sallee, Warsaw, Ind., Ralston Purina Co.; Robert W. Brumbaugh, Darke County Farm Bureau Co-op, Greenville, Ohio; J. W. Sicer, Purdue extension poultryman and moderator; R. W. Detwiler, Steckley's Mill and Hatchery, Kendallville, Ind., and Vern Leeka, McMillen Feed Mills, Boonville, Ind.

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In milk replacement formulas, breeder rations and other feeds for swine, cattle and calves, Brewer's Dried Yeast acts as a growth stimulant, accelerates the rate of gain, improves the utilization of other nutrients and provides the "extras" in time of stress.

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members, but they agreed that it was a desirable arrangement. Mr. Leeka mentioned that the repeat business year after year is the only sound type of program to stand on.

Mr. Detwiler told how his company got into the started pullet business. It was a transition from day-old and battery started chicks to the present 16 to 18 week old pullet which their customers desire.

Mr. Sallee pointed to some pitfalls which can be encountered when distressed started pullets are sold at reduced prices.

The day-long program concluded with a discussion by Ralph M. Crooks, manager, Poultry Producers Assn., Versailles, Ohio, of the electronic egg handling equipment which was installed in his plant back in 1957. At that time this equipment was the first of its kind found east of the Rockies. Recently an electronic blood spot detector has been added to one of the machines. Mr. Crooks told the group that this new detector does a good job as they are producing the finest pack of blood-spot-free eggs ever. However, there are some problems yet to be worked out, he noted. The detector does not remove eggs with certain blood spots found near the shell surface and these must be removed by hand while traveling on the conveyor over the flash candler, he said.

The morning program was chairmanned by Dr. J. Holmes Martin, head, Purdue poultry science department, and the afternoon session by David D. Jackson, Purdue extension poultryman.

W. R. Grace Names Chicago Sales Manager

CHICAGO—W. R. Grace & Co., nitrogen products division, has announced the appointment of Burton L. How, Jr., as Chicago district sales manager.

Burton L. How

Mr. How was formerly anhydrous ammonia product manager at the nitrogen products division headquarters in Memphis, Tenn. Mr. How joined W. R. Grace & Co. in 1953, and was for two years in the New York office before moving to Memphis in 1955 when Grace's ammonia and urea facilities came into production.

As Chicago district sales manager, Mr. How will be responsible for ammonia and urea fertilizer and feed urea sales in North and South Dakota, Nebraska, Iowa, Minnesota, Wisconsin, Michigan, Ohio, and the northern half of Illinois and Indiana.

JAPANESE CONSTRUCTION

YOKOHAMA, JAPAN — An electronically controlled feed mill with a capacity of 66 tons per hour in two continuous mixing systems will be constructed here for the Ajiumoto concern of Japan. The new plant, which will be located in a newly filled-in section of the Yokohama port, will include a traveling pneumatic ship unloader, special elevator for non-free-flowing products and 850,000 cu. ft. bin capacity. Production orders will be fed into the electronic control system by punch card. The contract for design and manufacturing equipment has been awarded to MIAG Northamerica, Inc.

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"You come from Chase, son, and you have a remarkably fine pedigree. By pedigree I mean you are made of the finest materials available. Chase is mighty particular about the materials they use. They buy in the open market and buy *only* the best from many different sources. That's why you can consider yourself a VIP* with an important job to do. Whatever you are called upon to carry—feed, seed, fertilizer, chemicals—anything—you'll do it better because you're a Chase bag. Now run out and go to work—it'll seem just like play." Chase bags not only work better...they look better, too. They're beautifully color printed. And they cost no more. Call your Chase Man today, or write us for full information.

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METHODS

(Continued from page 32)

the actual feeding operations. Only the most efficient growers will be maintained on the contract. The man who is putting up the money simply cannot afford to keep the inefficient growers in business.

Financing Methods

If these larger operations are taking more and more capital investment, larger amounts of money tied up in accounts receivable, inventory, etc., where is all the money going to come from?

Let's look at some of the sources. First, you have your traditional sources, such as profits plowed back into the business, savings, bank loans, production credit loans, and government agencies, like the Small Business Administration. You are familiar with them, so I won't do more than mention them.

I would like to examine some of the lesser known sources—I was going to say newer, but most of these are not particularly new, except in their application to our industry.

CAPITAL LOANS, from one segment of the industry to another. This is fairly common practice. Most often it has been a loan from a feed manufacturer to one of his good customers. The customer could use more of the feed manufacturer's product if he only had some bulk equipment, or a larger hatchery, or a more efficient processing plant. The feed manufacturer realizes that the grower must increase his operation if he is to stay competitive and, of course, this also has the effect of expanding the feed manufacturer's business with the consequent opportunity of his becoming more efficient.

Many times the applicant wouldn't qualify for a bank loan of the amount needed, and the return, based on interest income, would not appeal to a lending institution. But the feed manufacturer knows his customer, he has faith in the man's ability to operate at a profit, and he has the additional income on the sale of his product in addition to the interest on the loan. Very often he will tie a management agreement in with the loan so that the feed manufacturer can be sure that the latest management practices are followed. So, the feed manufacturer loans his customer the money. If all goes well, the loan is paid back and everyone is happy. If all does not go well, the feed manufacturer has to step in and foreclose on his collateral, and that may put him one step down the road toward integration.

Another type of capital loan that has become prevalent in the industry is one strictly for working capital. The borrower may have placed too large a percentage of his funds in fixed assets such as building and equipment, or machinery, or birds, and find himself strapped for money to pay operating expenses. This condition is very apt to come about during a prolonged period of depressed prices. Here again, the feed manufacturer has had to step in and make a loan so that his customer can continue in business and continue to buy the feed manufacturer's products. Again, if the loan is not paid back on schedule the lender usually steps in and takes control in order to protect his investment.

EQUITY PROGRAMS—As opposed to capital loans, which is debt money like a bond, some companies have rather well-developed equity programs. In other words, they buy stock in the other operation. Actually, therefore, they become one of the owners. General Motors, Ford and Chrysler have used this program extensively to finance their dealers. The local dealer puts up what money he has. The automobile manufacturer puts up the balance needed. In return, the manufacturer controls all the voting stock and can tell the dealer how he must operate his business. The contract calls for a certain percentage of the profits to go to each partner and then a certain percentage of the dealer's share must be paid back to the automobile manufacturer until the debt is entirely repaid.

If the dealer is successful, he gradually buys out the automobile manufacturer on a specific repayment program and eventually owns the dealership outright. Some of the automobile companies' most successful dealerships were started out on this equity program and they consider this program to be part of their regular financing operations. This type of program envisions a gradual payback to the lender and thereby differs from an ordinary purchase of stock in another company, which does not anticipate a payback and which is put in for an indefinite period of time. This is done, too, of course, but it is the so-called "dealer enterprise" arrangement that is relatively new to our industry. At least one or two companies are experimenting with this method of financing their dealers, or users of their products, and it may become more common in the days ahead.

Here again, naturally, if the dealer is not successful, the lender steps in by exercising his stock voting rights and takes over the operation. This, too, may put him one step farther down the road toward integration. Of course, there are many cases where the feed manufacturer buys stock in one of the other segments of the industry, with every intention of just continuing to be one of the stockholders. There is no payback arrangement, and this is purely an investment situation.

Stock Sale

Another type of equity financing was the recent, well-publicized public sale of stock by the Arkansas Valley Industries, Inc. This was a case where a group of related operations—breeder farms, hatcheries, broiler growers, feed mills and processing plants—lumped all of their assets together and then sold stock to the general public in the totally integrated operation. Apparently the operations are successful, the stock has started paying dividends and the trade press has reported that they are presently contemplating selling another issue of stock to further expand the operations. To my knowledge, this is the only case of a public offering of stock in an integrated operation that we have had so far, but the success of this venture may well encourage others to try the same method of raising funds. As Harold Snyder, developer of the Arkansas Valley In-

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Now . . . an exciting new self-feeder for cattle that's a cinch to sell! Solves your customers' bulk feed storage problems . . . you also make more profit through bigger volume sales to your bulk customers; lower your overhead costs; provide more efficient customer service. Special hopper and trough design keeps feed clean, fresh, palatable. Cattle eat more; make faster, more profitable gains. Built to give 15 to 20 years of service with heavy rust-resisting steel. Ruggedly braced throughout.

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dustries, said at the Southeastern Poultry and Egg Assn. convention in Atlanta, "Public financing can't replace financing from other sources, but it is needed, in addition, to provide long term growth. Although we are the first to do this in the poultry industry, we are merely doing what other industries have found necessary."

LEASING—A third method of financing that has quite a few exponents is leasing. Today there are any number of companies with lots of money available who will lease you almost anything you might want or need. You need a hatchery; they will build you one and lease it to you. You want a feed mill or a processing plant; they will build it and lease it back to you. Automobiles, airplanes, office equipment and you-name-it—you can lease it. The drawback is that the rates are pretty high, as compared to conventional loans, and the lease payments have to be made regardless of the ups and downs, and profits, of the business.

In addition to the companies who specialize in leasing arrangements, many of the equipment manufacturers are prepared to sell their products on a lease-purchase arrangement. This, of course, allows the processor, or whoever it is, to get up-to-date, efficient machinery without having to put out the cash money immediately. This conserves his working capital and also, in some cases, there is a tax saving. The plan does fill a need in certain cases, and its use is becoming more general. You don't have to be in the leasing business to do this. The manufacturer can lease to the processor, or vice versa. The one with the money puts up the plant and leases to the operator.

FACTORING—A fourth method of financing that is just beginning in our industry is the one known as factoring. Factoring is a very old method of financing accounts receivable, but was used largely in the textile industry. About two years ago, one of the largest New York factors ventured into the poultry industry, and the use of factors today, while not yet widespread, is still not uncommon.

In its simplest form, the factor makes an arrangement with his client whereby he (the factor), in effect, becomes the client's credit department. When the client gets an order, he submits it to the factor for approval as to amount, terms, shipping date, etc. Once the factor approves the order, he takes the responsibility for collecting the amount due and guarantees no credit loss to the client. Also, if he so desires, the client can immediately draw upon the factor for the amount of money involved in the transaction. The factor, therefore, actually finances the client's accounts receivable. As you can see, this gives the client, for use in his business, all the money he might otherwise have tied up in his accounts receivable.

Some factors will go even further and finance inventories, labor, etc. In other words, they will furnish working capital for the client. Naturally, there is a charge for these services. There are two basic charges. One is the charge for services performed, such as credit checking, credit guarantee, collection work, etc. The other charge is the interest on the amount of money borrowed by the client. Here again, the needs of the particular enterprise will determine whether or not this type of financing is the logical one to be used.

MERGERS—The next type of financing I want to mention is mergers. In a sense, this is not a type of financing, but simply the formation of a new enterprise. However, since it involves bringing additional capital into a business, I'm going to consider it a type of financing for the purposes of this discussion.

Businesses merge for many reasons, as you know. It may be to obtain additional capital. It may be to obtain an outlet for a company's goods or services. It often is to get diversification. It might be in order to obtain better management. It could be for any one of a great number of different reasons—perhaps as many reasons as there are mergers. In our industry, however, I believe most mergers have been to get the "mergees" more integrated.

The front page of the March 18 issue of Feedstuffs reports the merger of two widely known Mississippi broiler businesses. They were Sanderson Brothers, Inc., a broiler producing operation, and Miss Goldy, Inc., a food processing plant. The reason given was, "To take full advantage of the marketing opportunities being offered in food production." They termed the move "natural and logical." They said, "We believe that any food business which hopes to make progress must establish a full production and processing program—and, further, that it must back this up with an aggressive product development and marketing program." In other words, they are saying they have to be integrated—and, furthermore, they are going to have to get into marketing the end product. This statement typifies the many recent mergers in our industry.

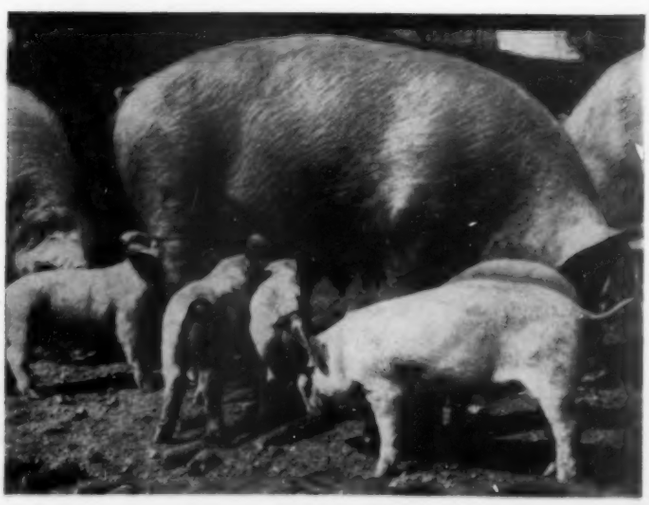
One of the most unusual mergers has recently taken place in Arkansas. The Mountainaire Poultry Co. is not a company in the usual sense of the word. Actually, it is a partnership of eight separate corporations functioning as a single unit. This is a combination of growing operations, hatcheries, feed mills, processing plants, trucking concerns and even a poultry by-products plant, all retaining their separate entities but operating as one company under an overall management committee. In this way they coordinate their hatching activities with their growing operations, their growing operations with their processing operations and the feed mills with all of the feeding operations.

The details of dividing the risks and the profits fairly are too involved to get into here, but at least these men believe this is the right combination for them. Certainly they are to be complimented for using their imagination and initiative to work out an arrangement that had no precedent but seemed to fit their needs as they saw them. It combines the abilities of a number of specialists into one integrated operation. The weakness, in my opinion, would be the difficulties inherent in trying to operate under a management committee, but if they can work this out, they may very well be highly successful. You know, they say a camel is a horse that was put together by a committee. In any event, they felt they had to do something to be able to compete in today's markets, and had the courage to embark on a bold program. It will be an interesting experiment to watch.

I could quote you many other examples of mergers—both in our industry and in others.

CONTRACTUAL ARRANGEMENTS—The final type of financing I want to explore for a moment is

Which test proves the value



the achievement of integration through contractual arrangements. In this type of operation each party maintains his individual identity, but they contract together to produce a specified amount for a specified market at a specified price. For example: A processor may contract with a broiler grower to have the grower furnish him, say, 50,000 birds per week. The grower then contracts with the hatchery for enough baby chicks to give him 50,000 grown birds per week. The hatcheryman then contracts with his breeder flock owner for enough eggs to produce 50,000-odd chicks per week.

Now, somewhere along the line the feed man has to get into the act. He will probably make his arrangements with whichever operator is the strongest financially. This may be the grower—and that might be because the grower is already a customer—and he is the one who actually uses the feed. However, it could be, and often is, either the processor or hatcheryman. As pointed out previously, however, whoever does put up the money is the one who controls the operation. Contracting has the advantage of maintaing the special abilities and strength of each of the contracting parties in their own field, while at the same time giving them the strength of the integrated operator of producing a specified quantity for a specific market.

I mention these contractual arrangements just to point out the fact that it is not always necessary to actually own breeding flocks, hatcheries and processing plants, with the consequent large capital investment, in order to be integrated. The same results can be achieved by contracts.

I think the inference to be drawn from all of these various arrangements is that, more and more, people in our industry are selling meat and eggs rather than feed. Particularly in the highly concentrated commercial areas, feed mills are users, rather than sellers, of their own products. As the Sanderson-Miss Goldy people said, they are producing food—not feed and not chickens—but food.

So far, integration has more or less stopped at this point. The feed manufacturer and the processor have not moved into the retail marketing of a branded product to any extent. Similarly, the large chain stores have not moved back into the growing and processing levels.

The Next Move

Will either one of these groups make that next step in the near future? William A. Haffert, Jr., editorial director of the Garden State Publishing Co., Sea Isle City, N.J., made quite an analysis of this problem recently at the Fact Finding Conference in Kansas City. He concludes that the chain stores will probably not move back into our industry for several reasons.

First, they move back into supply, as a rule, only when a commodity is available from relatively few large volume suppliers. Certainly poultry doesn't fall into that category. Secondly, Mr. Haffert concludes that they can make more money by staying in what he calls "the food real estate business"—"selling shelf space." If any of you have had any business with the chains you know that is literally true. In fact, one of the latest developments in this field is the actual leasing of a certain amount of shelf space from a chain store by a manufacturer. For so many dollars per year you get to display your products on so many feet of shelf space. This is certainly selling shelf space. Thirdly, he thinks the chains are developing a "live and let live" philosophy and they would prefer to work with the producer, rather than produce their own goods.

Now, as to the feed manufacturer moving into the merchandising of the end product, Mr. Haffert concludes that eventually some of the large firms who already have a nationally advertised trademark will get into merchandising—he says this in spite of the fact that he says they tell him they won't. Speaking for the Ralston Purina Co., which is one of the firms Mr. Haffert deduces may be in this field, I can only say that we have no plans along those lines at the present time. We have tried a few experiments in some test markets to see if we could create a consumer preference for a branded egg. You can do it all right, but it takes a lot of money for advertising and promotion, and we couldn't do it at a profit. And we are still in business to try to make a profit.

There are too many variables in the world today to make any flat statements that such-and-such will never happen. Therefore, I won't say flatly that we will never try to merchandise a branded egg, chicken or turkey, but I will repeat that we, at least, have no plans along that line at present. We would prefer to stick to our specialty of manufacturing feed and let the retail experts do the retailing.

Independent Manufacturers

Well, where does all this leave the small independent feed manufacturer? Where is his place in the picture in the years ahead? Are the integrators and the large feed manufacturers going to run him out of business? I don't think so, provided he does the things that a small manufacturer can do best and lets the big firms do the things they can do best. There is a lot of room for personal service, special mixes and that sort of thing that the small operator can do better than the big. These things he should emphasize. The personal relationships, the desire and ability to be of real service to the individual grower, can often be better performed by the small local merchant than by the big operator. Also, there is still a lot of independent business in hogs, cattle, dairies and other feeding operations that are not so highly integrated.

Then, I think he should take a good hard look at the trends in his area. Is it becoming integrated or isn't it? Are the growers "independent" or "captive"? Are his volume and margin such that he can weather some rough times and still survive? He should look around at his competition and at the other segments of the industry in his area. If it looks like a merger, or contractual arrangement, is logical he should do it before he is forced into it by economics. He must plan his capital needs. He should select the best method—for him—of fulfilling these needs. He should study leasing, factoring, equity or debt, and decide the route he wants to take. He should make long range plans—and then work his plan.

The future is bright for the man who will plan his own future as carefully as the integrators are planning theirs. All the predictions call for a larger and larger feed industry in the years ahead. Make your plans now to get your share.

It's been proven again and again... Arsanilic Acid gives best results under practical growing conditions!

No medication program can ever substitute for good management. Hogs raised on concrete, hogs raised with extra care and attention—as they often are on research farms—are almost sure to do well. Disease levels in such swine are usually low. But they're kept low by an investment in good management and extra man hours not normally available to commercial hog raisers.

Arsanilic Acid Works Best When Disease Level Is Highest. No, not many of your customers will ever try out Arsanilic Acid under the nearly ideal conditions shown in the top picture. But that's the point . . . that's why so many growers have learned to rely on Arsanilic Acid. That's why they ask for it in all their swine feeds, even though they'll never operate under conditions as far from ideal as those shown in the bottom picture.

A healthy-looking hog may be suffering from low-level disease. Poor weight gains result—feed efficiency falls off. When this happens, you have a situation made to order for Arsanilic Acid. It goes right to work in the gut . . . helps combat harmful bacteria . . . helps protect pigs from active disease. Arsanilic Acid does its work when there's a job for it to do . . . and, under practical conditions, there usually is a job for it to do—all the way to market.

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SERVICING

(Continued from page 30)

than routine service calls, this is in the form of intelligent suggestions.

One good example is a farmer who has never used bulk feed. Mr. Heard points out the labor as well as the money saving features. He uses the personal approach right in the poultryman's buildings. He draws up the plans, includes costs, and the farmer need only say "yes" or "no." Mr. Heard then takes over the entire operation and locates contractors and materials. The farmer, not the feed company, pays for the bin installation.

"What about old customers who don't change over? Don't overlook them," Mr. Heard replies. "Visit them regularly. As business is built up, they'll take notice and gradually move over."

Mr. Heard, who plans on making eight calls daily, makes up his schedule the night before—from dealer and customer calls to his home, calls in the field, and routine stops. Emergency calls always come first, whether day, night or week end. He's on a standby basis seven days a week, 24 hours a day. Often his schedule is subject to change as a dealer visit will disclose a customer call which he attends to immediately. He often works late to complete all calls.

SALESROOM DISPLAY — Ed Boover, left, J. H. Smith Grain, Inc., Haverhill, Mass., and Arthur Heard, feed serviceman, check over a salesroom display. Mr. Heard visits dealers as well as farm feed customers.

As a serviceman, farmers seek his advice and know-how on just about every problem imaginable. On a typical day one poultryman wanted information on a particular type brooder he intended buying (he related the experience of others). Another wanted to know whether it was advisable to buy a certain strain of started pullets (other poultrymen were having poor results with that strain). Another poultryman had a mechanical feeder breakdown and couldn't locate parts (he phoned a rush order for parts).

This past winter he received an emergency call in the middle of the night during a howling three-day blizzard. "Birds are dying like flies," came the word. Although it meant driving over 200 miles, Mr. Heard made the trip, only to discover the water pipes had frozen in the broiler house and the birds were clustered around the empty water pans so tightly the grower couldn't see the pans were empty. Mr. Heard's comment: "Fortunately it wasn't anything more serious."

On the Job

Before entering a building, Mr. Heard slips into disposable plastic boots to avoid any chance of spreading disease from farm to farm. He starts a service call by checking the feed consumption and mortality chart in the feedroom. He compares the feed consumption figures with a pocket chart carried in a notebook to see if it is normal. His pocket chart carries figures on turkeys, pullets, and meat birds of all ages. Entering the pen, he moves carefully among the birds, picking up and examining birds at random, examining for proper feathering, clear eyes, and for discoloration of the legs. He warns that an individual bird may have a problem and not the entire flock. However, if the flock appears off-key, he may perform a post-mortem with surgeon's shears.

Mr. Heard claims that a serviceman should try to create good will between himself and the college pathologist. Field post mortems are not as accurate as in the labs. But on the other hand, the skilled serviceman, who has a knowledge of flock conditions, can relieve the college of a lot of field work. If anything is serious he takes specimen birds direct to the nearest college diagnostic lab and waits for a report, following up with corrective measures at the farm, ie., (1) management and (2) sanitation.

While checking the flock, he watches for management problems. At one farm he mentioned the chicks

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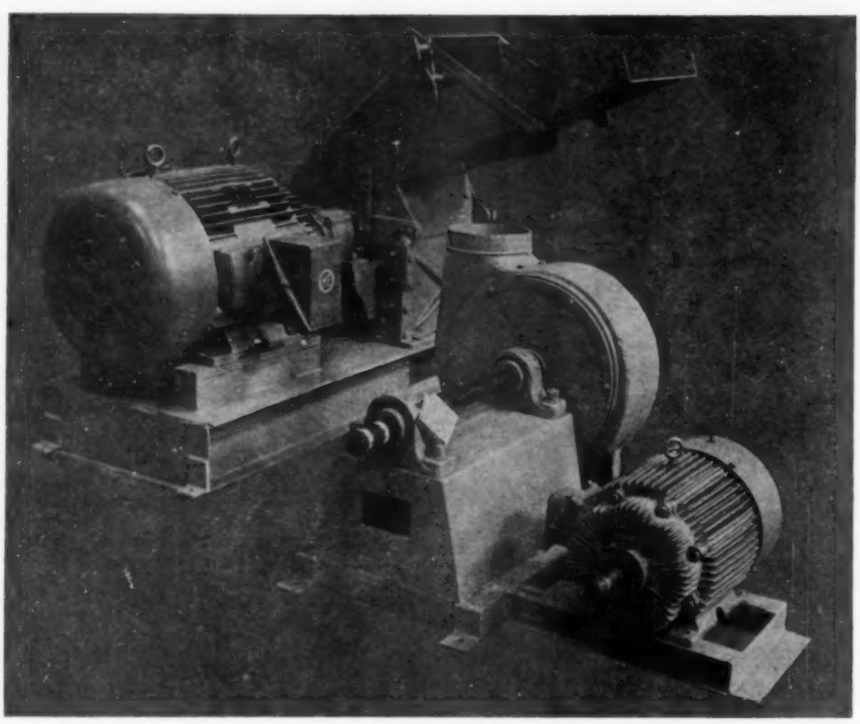

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Pillsbury's BEST Feed XXXX

Pillsbury's BEST Feed

developed and quality controlled for today's most demanding feeders

SERVICE CALL — Arthur Heard, feed serviceman, left, completes a service call with James A. Wood, market egg producer (700 layers, 1,000 replacements). Mr. Wood had a problem and left word with his local feed dealer for Mr. Heard to stop in. Mr. Heard schedules about eight service calls daily—emergency calls always come first. There is no charge for this customer service.

were ready for the larger feeders. But it all depends on how the poultryman goes about it. Sanitation, for example, is a touchy subject. "Sanitation is a slow gradual process of education," he says. "Some poultrymen are apt to take offense if you draw the line too close. Sometimes I take a customer to visit other farms and say 'there's a good example' without being too obvious."

Farmers sometimes feel a feed salesman can be called upon for free labor. Mr. Heard occasionally helps a customer with culling, blood testing or inserting certain antibiotics. But when it comes to other requests for labor, he explains that his job is more important than just labor.

Here's how Mr. Heard does it: (1) Explain that emergency calls always come first. (2) Impress on the customer that if he had an emergency on his farm, and the serviceman had to spend a day or two at every farm, he wouldn't be able to help him. (3) Explain that if an emergency came, he would have to leave the job unfinished.

Handling Dealer Accounts

Dealer visits consist of stimulating business, checking on new accounts, customer visits, and instructing the dealer and his sales help in merchandising and nutrition. In many cases visits consist mainly of checking stock, suggestions for displaying feed, or explaining new literature.

He firmly believes in dealer protection. He doesn't attempt to take orders in the field. If he does get an order, he'll phone it in to the nearest dealer. Neither does he take on a new dealer if it cuts into an established dealer's territory. If he comes across a new feed prospect, he tells him about the local dealer.

When taking on a new dealer, he has the dealer make up a list of six or seven good poultry or dairy feed prospects. Mr. Heard types up a letter of introduction and sends it through the dealer. Mr. Heard and the dealer follow up with a personal visit.

CHART CHECKING—Arthur Heard, Ipswich, Mass., feed serviceman, starts a call by checking the feed consumption and mortality chart in a customer's feedroom. He compares the feed consumption figures with a pocket chart to see if consumption is normal. The pocket chart includes figures on turkeys, pullets and meat birds of all ages.

In many cases, where a dealer is selling a competitive line of feed, Mr. Heard has won him over to pushing Granite State Feeds through his customer influence.

In the war years, when cars and gasoline were scarce, Mr. Heard put in 10,000 miles calling on New Hampshire and Maine dealers with a motorcycle. Today, he is furnished with a new rented car about every 14 months. Under this arrangement, mileage costs average about 5.1¢ per mile. When he leased his own car to the company, he couldn't get his costs under 8¢ per mile.

Mr. Heard sends a weekly report in to the office. It is in the form of a typewritten sheet, generally covering two or three pages, containing anything pertinent to the office including any complaints, new accounts, suggestions to improve customer relations, etc. During the week, while in the field, he keeps in constant touch with the office by phone.

Through the faith developed in his accurate servicing over the years, Mr. Heard has won his dealers and customers onto another line of feed and boosted his firm's feed sales substantially in less than two years.

Cargill Assistant Vice President Named

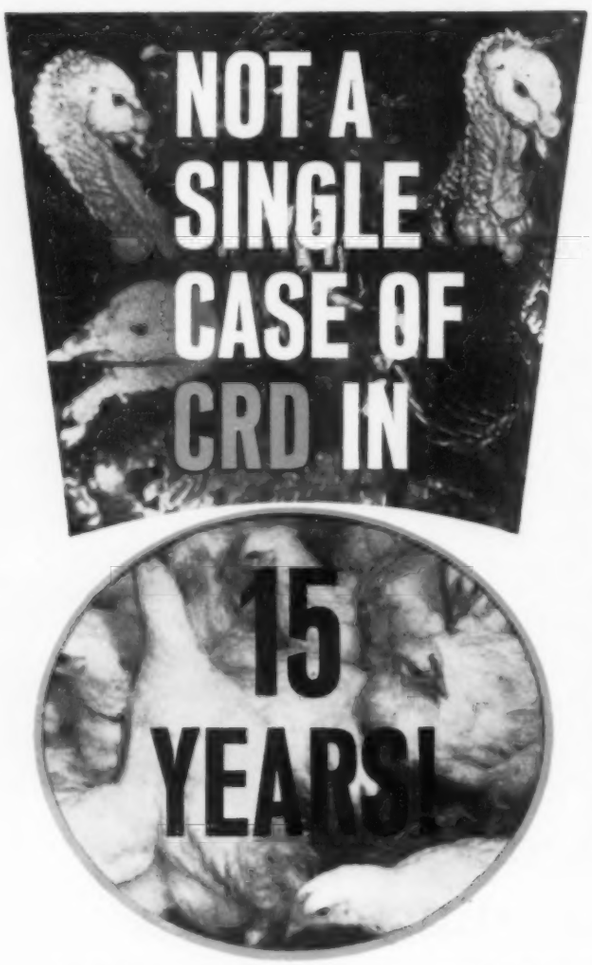
MINNEAPOLIS — Dr. A. Richard Baldwin, research director of Cargill, Inc., has been appointed assistant vice president of the firm, Erwin E. Kelm, Cargill president, announced.

Dr. A. R. Baldwin

Dr. Baldwin came to Cargill in 1954 and organized the firm's basic program of agricultural research in animal production systems, cereal chemistry, vegetable oils utilization and grain handling and storage improvement.

He is a member of the American Chemical Society and the American Association for the Advancement of Science. He is a committee chairman of the National Soybean Research Council and is on the agriculture board of the National Research Council. He has been editor of the American Oil Chemists Society Journal for 13 years and is incoming president of that group.

Dr. Baldwin, a native of Michigan, holds a B.S. degree in chemistry and a Ph.D. in biochemistry. Further studies were on a nutrition foundation grant.



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CRD (chronic respiratory disease) is the poultry affliction that many authorities state is by far the most frequent disease cause of poultry condemnations and is responsible for the loss of hundreds of thousands of dollars in poultry profits annually.

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This amazing record results from two factors: The use of Peebles' M-N-C in all poultry rations plus good management.

M-N-C consists of appetizing milk nutrients that keep birds on full feed constantly, even during stress. And it is stress that leads to most cases of CRD.

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NOW! Build low-cost CRD protection into all your poultry feeds with Peebles' M-N-C

It's true! Now you can offer poultrymen CRD protection right in with their regular rations by adding M-N-C to your poultry feeds!

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Compared to costly medications, M-N-C is an extremely low-cost way to combat stress and CRD. And birds never build immunity to healthful milk nutrients!

And remember this...the use of economical M-N-C in your feeds means you can offer poultry raisers protection against CRD at a price that won't cut into their razor-thin profit margins.

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DIVISION OF FOREMOST DAIRIES, INC.

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AMINO ACID

(Continued from page 24)

sulted when lysine was added with all three levels of protein. It is possible that the heavy breeders have a higher requirement for lysine.

A few comments from other workers were made at the completion of the two papers on the laying hen investigations. Dr. Robert H. Harms, University of Florida, stated that when the protein level was lowered he had always been able to obtain a response to methionine hydroxy analogue. Dr. Harms and a number of other workers present stated that the protein requirement might vary with strains and this might account for varying results from different stations. Prof. Runnels from Delaware commented that it was his opinion that the laying hen might need methionine hydroxy analogue supplementation at the beginning of the egg production period more critically than at any other time.

AMINO ACID MIXTURES FOR GROWTH—The next two papers concerned with amino acid mixtures for growth were quite fundamental in nature and have little practical application, but did provide very much needed information concerning amino acid requirements and amino acid interrelationships. Dr. J. O. Anderson, Utah State University, Logan, Utah, presented a paper entitled "Composition of a Balanced Mixture of Essential Amino Acids for the Chick."

Dr. Anderson made up a dietary combination of amino acids and compared this with the National Research Council recommended allowances for amino acids but did not obtain satisfactory growth in comparison with diets that are commonly used at the present time and concluded that additional work was needed. According to Dr. Anderson, balance was more important than the amino acid requirements—that is, the best mixtures under specified conditions at a particular amino acid level. Nine percent protein was used in making up Dr. Anderson's combination of amino acids, and he presented a table of values for each amino acid for the best 9% protein mixture.

Illinois' Work

The second paper in this field was given by Dr. B. C. Johnson, University of Illinois, Urbana, Ill. The group, led by Dr. H. M. Scott, in which Dr. Johnson has collaborated, has done a great deal of work on the amino acid requirements of chickens. The title of Dr. Johnson's presentation was "The Absolute Intake of Essential Amino Acids by Chicks Fed Corn-Soybean Meal and Crystalline Amino Acid Diets." The Illinois group has been able to make up an amino acid mixture which supports quite satisfactory growth. Dr. Johnson and Dr. Scott had not been able to obtain maximum growth with the National Research Council combination of amino acids and decided to start over again using the composition of the chick carcass as reported by Cornell as a basis. Twenty percent protein was used and was made up of L amino acids along with a source of nonessential nitrogen.

Suffice it to say that a combination of amino acids was devised which could promote growth almost to the extent of that obtained with a natural source of protein such as casein.

Proline is an essential amino acid for the chick as reported earlier by the University of Wisconsin group. The mixture of amino acids which was made up supported growth almost equivalent to that obtained with practical feed ingredients.

NUTRITIONAL STRESS AND AMINO ACID NUTRITION—Dr. Hans Fisher, Rutgers University, presented the final paper at this conference. The title of Dr. Fisher's presentation was "Nutritional Stress—Its Influence on the Essential Amino Acid and Nitrogen Requirement of the Chicken." Dr. Fisher's investigations were concerned with the adult cockerel requirements for amino acids. The adult cockerel, according to Dr. Fisher, requires 300 mg. nitrogen per kg. body weight per day. One hundred fifteen mg. of this nitrogen must come from essential amino acids and 185 mg. from non-essential amino acids. It is the non-essential amino acids which are necessary along with the essential amino acids for maintaining nitrogen balance, according to Dr. Fisher.

It was indicated from this report that the chick or at least the adult cockerel requires nitrogen from nonessential amino acid sources for the maintenance of nitrogen balance. A number of interesting questions pose in this regard. Does the chick take non-essential amino nitrogen and convert such nitrogen to essential amino acid?

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Shellmaker is slowly soluble in the gizzard to supply most effectively all the extra calcium the hen needs for building strong egg shells. It is also hard enough to do a good grit job as shown in feeding trials at several state experiment stations.

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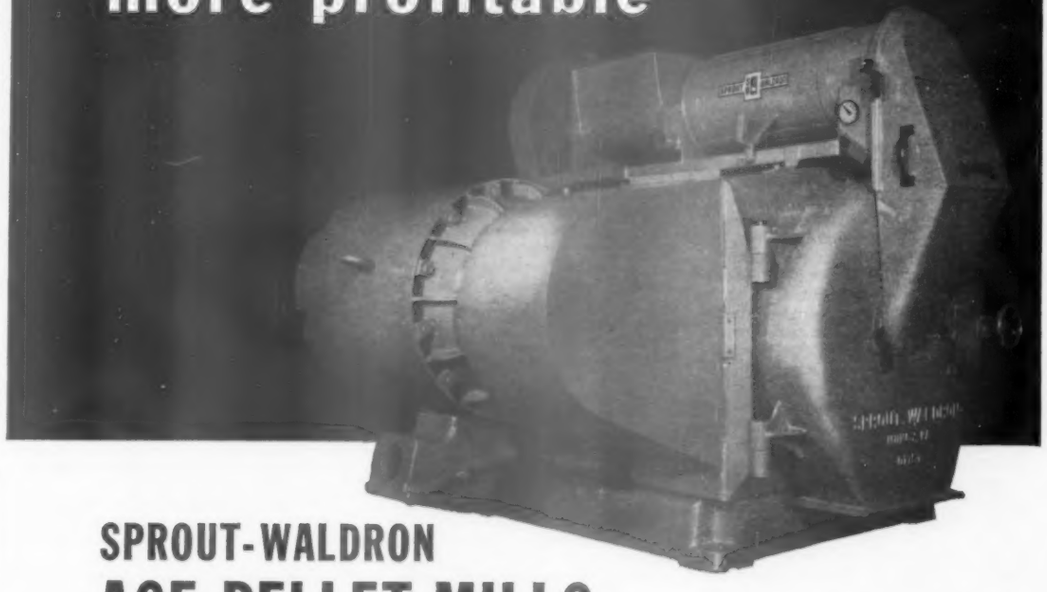

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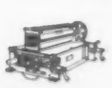
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Soybeans in Poultry Feeding——A Processing Problem

By Dr. M. C. Nesheim
Cornell University

Soybeans are a basic crop that supports the tremendous poultry industry of the U.S. Soybean oil meal is by far the most important source of supplementary protein used in poultry feeding today and is an excellent source of amino acids needed to balance proteins found in grains. However, the full potential of soybeans in animal feeding is not realized by considering them only as a source of supplementary protein. Because soybeans contain nearly 20% fat, they are potentially a good source of energy for the chick equal in caloric value to corn and wheat. Soybean oil has a metabolizable energy value of more than 4,000 Calories per pound and appears to stimulate chick growth under certain conditions. Recent studies at Cornell have been directed toward the problem of releasing the potential energy of the soybean for the chick.

Basically we have found that two types of treatment of soybeans are necessary before chicks can gain the full benefits of the high protein and soybean oil content of the soybean: heat treatment and processing to increase the soybean oil availability.

HEAT TREATMENT—Heat treatment of soybean oil meal has been standard procedure in processing soybeans for a number of years. Raw soybeans are poorly used by monogastric animals for a variety of reasons not as yet clearly understood. One of the principal reasons for poor utilization of raw soybeans by the chick is the presence of potent trypsin inhibitors in the raw soybean (Bowman, 1944). In addition, a toxic protein, soybean hemagglutanin (Liener, 1958), may contribute to their poor nutritional value. Methionine unavailability also has been suggested as a possible reason for the poor protein quality of raw soybeans (Almquist, 1942). Recent work at Cornell indicates that raw soybeans also interfere with fat digestion in the young chick (Nesheim and Brambila, 1960).

Fortunately, proper heat treatment can correct the deficiencies of raw soybeans and make soybean protein well utilized by the chick. The metabolizable energy of soybean oil meal and soybeans for chicks was found to be a good indication of proper heat treatment in studies by Renner and Hill (1960) at Cornell. The data in Table 1, taken from studies by these authors, indicate that raw soybean oil meal or raw soybeans have a low metabolizable energy value for the chick. Heat treatment increases the metabolizable energy value of raw soybean products substantially. Heat treatment in this study was done in a laboratory autoclave in the following manner: The raw ground soybeans or extracted soybean flakes were brought to 20% moisture and remained over night in a cooler. They were placed in thin layers in shallow pans and heated in a laboratory autoclave at pressures and times indicated in the table. Following autoclaving they were dried at 50° C. in a forced air oven. Heating from 10 to 60 minutes at 107° C. (4 lb. steam pressure) gave essentially the same results. Longer heating reduced the metabolizable energy value of the soybean products substantially. These data indicate that soybeans tolerate a fairly wide range of heat treatment before detrimental effects from overheating are observed. The data in Table 1 indicate that heat treatment conditions adequate for extracted soybean oil meal are also adequate for full fat soybean products. This suggests that equipment and heating times satisfactory for heating soybean oil meal may also be adequate for heating full fat soybean products. Since adequate chemical methods for measuring proper heat treatment of soybeans are not available, any heat treatment system devised should be tested by chick assay of heated products.

TABLE 1. Effect of Heat Treatment on Metabolizable Energy of Soybeans and Extracted Soybean Flakes for Chicks

Heat treatment (Time and steam pressure)	Metabolizable energy of soybeans	Metabolizable energy of extracted soybean flakes
None	2.77	1.56
10 minutes, 40 lb.	3.52	2.62
40 minutes, 4 lb.	3.34	2.60
60 minutes, 4 lb.	3.37	2.51
120 minutes, 15 lb.	3.05	2.02

From Renner and Hill (1960).

TABLE 2. Comparative Growth Promoting Value of Soybean Oil and Full-Fat Soybean Flakes

Treatments	Average wt., 4 wk. gm.	Feed/gain
Experiment 1		
Basal diet (low fat)	518	1.85
Basal + soybean oil	562	1.59
Basal + soybean flakes	593	1.44
Experiment 2		
Basal diet (low fat)	406	2.06
Basal + soybean oil	441	1.73
Basal + soybean flakes	451	1.70

Data are averages of duplicate lots of 10 cockerel chicks: Experiment 1, Cobbs White Rock cockerels; Experiment 2, Red x Rock crossbred cockerels.
From Carew et al, 1959.

METABOLIZABLE ENERGY VALUE OF SOYBEANS FOR CHICKS—In the above studies the metabolizable energy value of properly heated soybeans ranged from 3.3 to 3.5 Calories per gram of dry matter. This value was somewhat less than the expected value of 3.8 Cal./gm. for soybeans based on the expected yield of 44% protein soybean oil meal and soybean oil. This discrepancy was found to be due to poor digestibility of soybean oil in soybeans. Soybean oil is normally 95% digestible for the chick when supplied as free soybean oil (Carew et al., 1961a) but the oil in the soybeans was only 75% digested by the chick. Thus heat treated soybeans did not appear to be an efficient source of soybean oil for the chick.

It is possible, however, to increase the availability of soybean oil in soybeans to the chick so that the full potential energy in the soybean is released.

FLAKING SOYBEANS—Soybean processors normally flake cracked, dehulled soybeans before solvent extraction to obtain the most efficient extraction of the oil from the soybean. The flake used is very thin, around 0.010 in. thick. Studies by Carew et al., 1959, and Carew et al., 1961a, showed that heat treated flaked soybeans are also excellent sources of soybean oil for the chick. The data in Table 2 show that chicks fed diets containing heated soybean flakes grow and use feed as efficiently as chicks fed equivalent amounts of free soybean oil and 50% protein soybean oil meal. This is in marked contrast to previous results using heat treated ground soybeans.

The metabolizable energy values of heated, flaked soybeans are compared to the metabolizable energy values obtained for heated, ground soybeans and dehulled, heated ground soybeans in Table 3. The determined absorbability of fat in these products is also listed in this table. The averages listed represent duplicate determinations on several separate samples of the soybean products. The metabolizable energy value of the flaked soybeans was equal to the expected value based on their composition. The values for dehulled ground soybeans and ground soybeans are well below the expected values. The soybean oil in ground soybeans was only 69% absorbed while the oil in flaked soybeans was 91% absorbed. This explains the large difference in metabolizable energy values between these two products. Flaking dehulled soybeans improved their energy value from 3.46 Cal./gm. to 3.92 Cal./gm. (1410 Cal./lb., 10% moisture to 1600 Cal./lb., 10% moisture). This represents a considerable improvement in their value as a source of energy for the young chick. The flaked soybeans compare favorably to corn (1560 Cal./lb.) as a source of energy for the chick.

Under our conditions flaked, heat treated soybeans have been fully as effective in promoting chick growth and feed conversion up to four weeks of age as equivalent amounts of free soybean oil and 50% protein soybean oil meal. Ground, heat treated soybeans have been less effective in promoting growth and feed conversion when they are included in chick diets.

PELLETING—Since flaking soybeans improved the utilization of soybean oil by the chick, it appeared that some mechanical pressure applied to the soybean was essential. Flaking may have caused greater cellular disruption in the bean, making the oil more accessible for digestion. Since considerable mechanical compression is involved in pelleting, we studied the effect of pelleting soybeans on the digestibility of soybean oil for the chick. Our studies indicate that pelleting diets containing heated ground soybeans improves digestibility of the soybean oil in the soybean by the chick nearly as much as flaking (Carew and Nesheim, 1961). In these experiments unpelleted heated ground soybeans had a metabolizable energy value of 3.3 Calories per gram of dry matter, whereas the same soybeans, pelleted in a diet, had a metabolizable energy value of 3.8 Calories per gram dry matter. It is important, however, that the pelleting be done when the soybeans are mixed in the whole diet of the chick. When the ground soybeans alone were pelleted, reground and mixed into the diet, the metabolizable energy value was only improved to 3.47 Calories per pound. These changes in metabolizable energy value were due entirely to changes in soybean oil digestibility caused by pelleting. Pelleting of the whole diet is probably necessary because the soybeans pellet much more easily than the whole diet, so that the mechanical forces involved in pelleting may be considerably less.

Our studies indicate that pelleting may be a good method for insuring maximum energy value of ground soybeans for chicks. In our studies, however, growth rate of chicks receiving pelleted diets containing heated ground soybeans has not been as great as growth of chicks receiving free soybean oil plus 50% soybean oil meal. This needs to be studied further under practical conditions.

Soybeans containing 20% fat can be readily pelleted, and diets with as much as 13% fat from ground soybeans pellet very readily. Ordinarily, diets containing over 3% added fat are difficult to pellet.

MEASURING FAT AVAILABILITY—We have measured the absorbability of soybean oil from various soybean products in our studies by chick assay procedures described by Renner and Hill (1960). This requires considerable time and laboratory work and is not easily adapted to screening procedures or quality control. We have developed a rapid in vitro method of estimating whether or not soybean oil in various soybean fractions is readily available to the chick (Carew et al., 1961b). The

(Turn to SOYBEANS, page 170)

Dr. M. C. Nesheim

AUTHOR—Dr. Nesheim, the author of the accompanying article, is an assistant professor of animal nutrition in the department of poultry husbandry at Cornell University, Ithaca, N.Y., a post he has held since February of 1959. He received a B.S. degree in agricultural science from the University of Illinois in 1953 and an M.S. degree in animal science from the same university in 1954. He received his Ph.D. degree in animal nutrition with minors in biochemistry and physiology from Cornell University. His chief research has been in vitamin E-selenium relationships, fat utilization and metabolism.

TABLE 3. Metabolizable Energy and Fat Absorbability of Flaked, Dehulled Soybeans, Ground Dehulled Soybeans and Ground Soybeans for the Chick

Material	No. samples	Metabolizable energy* Cal/gm. DM	Expected M. E. value† Cal/gm. DM	Fat absorbability* %
Flaked, dehulled soybeans	7	3.92	3.90	91
Dehulled ground soybeans	2	3.46	3.90	70
Ground soybeans	5	3.19	3.80	69

*Represent average of all samples studied. Duplicate determinations conducted on each sample.

†Expected value calculated from expected yield of soybean oil meal and soybean oil and metabolizable energy values previously determined for these products.

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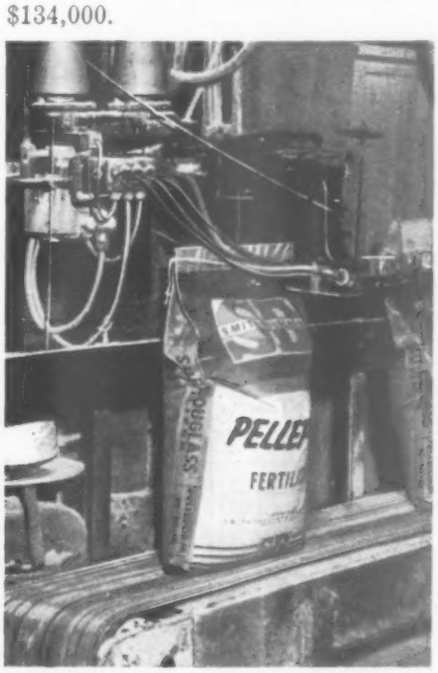

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Convention Calendar

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

June 28 and 30—"Golden Goodness of Texas High Quality Eggs" Month; June 28, Kickoff Luncheon, Texas State Hotel, Houston; June 30, Kickoff Luncheon, Baker Hotel, Dallas; T. A. Hensarling, sec., Texas Egg Council, P.O. Box 251, Stephenville, Texas.

1962

April 26-28—Texas Grain & Feed Assn.; Hotel Texas, Ft. Worth; sec., R. B. Bowden, 504 Ft. Worth Club Bldg., Ft. Worth 2.

May 7-10—American Feed Manufacturers Assn. Convention and National Feed Show; Conrad Hilton Hotel, Chicago, Ill.; sec., W. T. Diamond, 53 West Jackson Blvd., Chicago 4.

May 7-10—Association of American Feed Control Officials; Hamilton Hotel, Chicago; sec., Bruce Poundstone, Head, Feed and Fertilizer Control Dept., University of Kentucky, Lexington.

May 14-15—Missouri Grain & Feed Assn.; Hotel Coronado, St. Louis, Mo.; sec., D. A. Meinershagen, Higginsville, Mo.

May 14-16—National Cottonseed Products Assn.; Eden Roc Hotel, Miami Beach, Fla.; sec., John F. Moloney, 43 N. Cleveland St., Memphis 4.

May 22—Des Moines Feed Club Field Day; Des Moines Golf and Country Club, Des Moines, Iowa; (hotel reservations) Reed Merrick, Sargent Calcium Co., 2525 Euclid Ave.; (tickets for banquet and show) Don Frantz, Nixon and Co., S.E. 21st and Maury.

May 22-23—Poultry Industry Sales Clinic; Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

May 26—Oregon Beef Cattle Day; Oregon State University, Corvallis; chm., Dr. A. T. Ralston, Animal Husbandry Dept.

May 31—Iowa Cattle Feeders Day; Iowa State University, Ames; Dr. Wise Burroughs, Animal Husbandry Dept.

June 1-2—Arizona Ranch School and Cattle Feeders Day; University of Arizona, Tucson; Dr. Bruce R. Taylor, head, Animal Science Dept.

June 4-6—Indiana Grain & Feed Dealers Assn.; French Lick-Sheraton Hotel, French Lick, Ind.; sec., Fred K. Sale, 600 Board of Trade Building, Indianapolis 4.

June 5-7—Association of Southern Feed, Fertilizer and Pesticide Control Officials; Lafayette Hotel, Lexington, Ky.; sec., M. B. Rowe, 203 N. Governor St., Room 304, Richmond 19, Va.

June 8-11—Canadian Feed Manufacturers Assn.; National Convention; Manoir Richelieu, Murray Bay, Quebec; national secretary, W. N. Hendrick, 2901 Bloor St. W., Toronto 18, Ont.; for registrations, T. G. Sevigny, Room 100, 355 McGill St., Montreal 1, Quebec.

June 9-10—Arkansas Poultry Festival: Little Rock; mgr., Arkansas Poultry Federation, John Haid, P.O. Box 1446, Little Rock.

June 11-14—American Dairy Science Assn.; University of Wisconsin, Madison; chm., Dr. L. H. Schultz, dairy husbandman, University of Wisconsin.

June 12-13—Eastern Federation of Feed Merchants; Concord Hotel, Lake Kiamesha, N.Y.; sec., Austin W. Carpenter, Box 66, Sherburne, N.Y.

June 13-16—Northeastern Poultry Producers Council Egg Quality School; Pennsylvania State University, University Park, Pa.; sec., Richard I. Ammon, 10 Rutgers Place, Trenton 8, N.J.

June 15-16—Pacific Northwest Grain Dealers Assn.; Davenport Hotel, Spokane, Wash.; sec., Merrill Sather, 418 Peyton Bldg., Spokane 1.

June 15-17—Delmarva Chicken Festival; Seaford, Del.; Delmarva Poultry Industry, Inc., R.F.D. No. 2, Box 47, Georgetown, Del.

June 19—Connecticut Poultry Day Program and Exhibit; University of Connecticut; William A. Aho, extension poultryman.

June 19-21—American Association of Feed Microscopists Annual Meeting; Continental Denver Motor

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Lodge, Valley Highway and Speer Blvd., Denver, Colo.; sec., G. M. Barnhart, Missouri State Department of Agriculture, Jefferson City, Mo.

June 19-24—Feed Microscopy Short Course, sponsored by American Association of Feed Microscopists; Continental Denver Motor Lodge, Valley Highway and Speer Blvd., Denver, Colo.; sec., G. M. Barnhart, Missouri State Department of Agriculture, Jefferson City, Mo.

June 20-21—Alabama Poultry Industry Assn.; Whitley Hotel, Montgomery, Ala.; sec., W. L. Walsh, Box 567, Montgomery.

June 29-30—Pennsylvania Poultry Federation; Pennsylvania State University, University Park; (room reservations) Russell Murphy; (program information) Glen O. Bressler, Room 105, Weaver Hall.

July 14-18—Georgia Feed Assn.: Grand Bahama Club, Grand Bahama Island; sec., W. E. Merritt, Suite 1-A, 361 E. Paces Ferry Rd. N.E., Atlanta 5.

July 18-20—American Poultry Congress & Exposition; Municipal Auditorium, Minneapolis; Don M. Turnbull, sec., American Poultry & Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

July 24-28—Southeastern Egg Quality and Grading School; Auburn University, Auburn, Ala.; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

July 27—Technical Alfalfa Conference; co-sponsored by the American Dehydrators Assn. and USDA Western Utilization Research and Development Division; Western Regional Research Laboratory, USDA, Albany, Cal.; chm., Dr. G. O. Kohler, Chief, Division Field Crops Laboratory, Western Regional Research Laboratory, 800 Buchanan St., Albany 10.

Aug. 2-4—West Virginia Poultry Assn. Convention and Festival; Moorefield, W.Va., sec., Wilson Smith, Petersburg.

Aug. 3-4—National Soybean Processors Assn.; Edgewater Beach Hotel, Chicago, Ill.; sec., Wm. K. Self, 3818 Board of Trade Bldg., Chicago 4, Ill.

Aug. 7-9—Southeastern Management Roundtable; Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Aug. 7-12—Texas Feed Microscopy Short Course; Memorial Student Center, Texas A&M College, College Station; E. E. Brown, Station Microscopist.

Aug. 9—Science at Work, Open House and Reports by Staff Scientists; Connecticut Experiment Station, Lockwood Farm, Mt. Carmel, Conn.

Aug. 13-18—School of Executive Development in Business Management, Unit II; Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Aug. 21-22—Kentucky Feed & Grain Association; Brown-Suburban Hotel, Louisville, Ky.; sec., Jack Weber, Box 425, Lexington.

Aug. 24-26—North Carolina Feed Manufacturers Assn.; Cavalier Hotel, Virginia Beach, Va.; sec., McNair Evans, Box 428, Laurinburg, N.C.

Aug. 24-27—Georgia Poultry Institute; Rock Eagle 4-H Club Center, Eatonton, Ga.; Dewey McNiece, Extension Poultry Dept., University of Georgia, Athens.

Aug. 28-29—American Soybean Assn.; Claypool Hotel, Indianapolis, Ind.; Geo. M. Strayer, Hudson, Iowa.

Sept. 11-12—Minnesota Nutrition Conference; Institute of Agriculture, University of Minnesota, St. Paul; chm., Dr. L. E. Hanson, Animal Husbandry Dept.

Sept. 11-13—Feed Production School; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Sept. 13-14—Maryland Feed Service Conference; Chemistry Auditorium, University of Maryland, College Park; Wade H. Rice, Poultry Dept.

Sept. 18-19—Pet Food Institute; Drake Hotel, Chicago, Ill.; sec., Clyde Kassens, 333 N. Michigan Ave., Chicago 1.

Sept. 19-21—Marketing Seminar for Feed Manufacturers; Morrison Hotel, Chicago; Sales Executives Council, American Feed Manufacturers Assn.; W. E. Glennon, president, 53 W. Jackson Blvd., Chicago.

Sept. 19-27—International Conference on Fish in Nutrition; Washington, D.C.; sec., Dr. Erik Heen, Chief, Fisheries Technology Branch, Food and Agriculture Organization, Washington 25.

Sept. 22-23—Iowa Feed Conference; Memorial Union, Iowa State University, Ames; Dr. H. L. Self, Animal Husbandry Dept.

Sept. 24-26—Southeastern Feed Production School; Continuing Education Center, University of Georgia, Athens.; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 Ponce de Leon Ave., Decatur, Ga.

Sept. 27-29—National Feed Ingredients Assn.; Lake Lawn Lodge, Delavan, Wis.; sec., I. Levin, 517½ E. Locust St., Des Moines 9, Iowa.

Sept. 27-29—Pennsylvania Millers & Feed Dealers Assn.; Hotel Hershey,

CALENDAR FOR 1961-62

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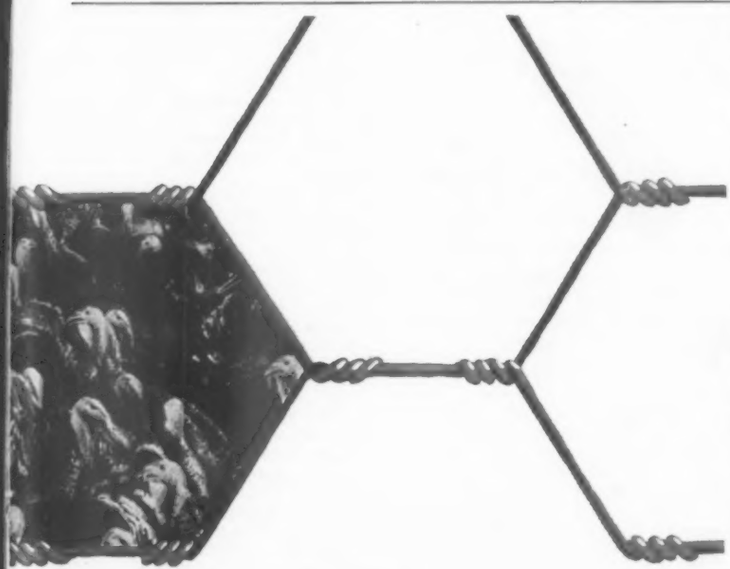

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Sept. 28-29 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; Dr. E. L. Stephenson, animal industry and veterinary science department.

Oct. 2-3—Washington Poultrymen's Institute; Centralia Junior College; Dr. Leo Jensen, Poultry Science Dept., Washington State University, Pullman.

Oct. 3-5—Northeastern Poultry Producers Council Exposition and Convention; Farm Show Bldg., Harrisburg, Pa.; sec., Richard I. Ammon, 10 Rutgers Place, Trenton 8, N.J.

Oct. 4-6—Texas Nutrition Conference; Texas A&M College, College Station; chm., Dr. J. R. Couch, Poultry Science Dept.

Oct. 10-11—Iowa Poultry Convention; Veteran Memorial Auditorium, Des Moines; sec., Iowa Poultry Assn., LeRoy Kruskop, 535 E. Lincoln Way, Ames, Iowa.

Oct. 15-20—School of Executive Development in Business Management, Unit III; Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 Ponce de Leon Ave., Decatur, Ga.

Oct. 16-17—California Animal Industry Conference; Fresno Memorial Auditorium, Fresno, Cal.; co-sponsored by California Hay, Grain & Feed Dealers Assn. and University of California; chm., Dr. H. S. Wilgus, 2690 E. Foothill Blvd., Pasadena, Cal.

Oct. 23-25 — Centennial Nutrition Conference; Hotel Muehlebach, Kansas City 5, Mo.; sponsored by Midwest Feed Manufacturers Assn. and Land-Grant Colleges in Midwest's area; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Oct. 24-25—Virginia State Poultry Federation; Hotel John Marshall, Richmond, Va.; sec., J. Paul Williams, 615 E. Franklin St., Richmond 19.

Oct. 26-28—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Head, Feed and Fertilizer Control Dept., University of Kentucky, Lexington.

Nov. 1—Animal Nutrition Research Council; Shoreham Hotel, Washington, D.C.; sec., Dr. Philip Derse, Wisconsin Alumni Research Foundation, 506 Walnut St., Madison 5, Wis.

Nov. 1-2—Kansas Poultry Assn.; Broadview Hotel, Wichita; sec., Harry J. Reed, Box 663, Manhattan.

Nov. 1-3—Cornell Nutrition Conference; Statler Hilton Hotel, Buffalo, N.Y.; chm., Prof. Douglas E. Hogue, Animal Husbandry Dept., Wing Hall, Cornell University, Ithaca, N.Y.

Nov. 8-9—Illinois Feed Assn.-Illinois Poultry and Hatchery Federation joint convention; Springfield Armory, Springfield; sec. I.F.A., Dean M. Clark, 141 W. Jackson Blvd., Chicago 4; sec., I.P.H.F., Aubrey Harless, Shelbyville, Ill.

Dec. 6-7—Missouri Poultry and American Poultry & Hatchery Federation Midwest Quickie Convention; Hotel Continental, Kansas City, Mo.; sec., Missouri Poultry Improvement Assn., E. M. Funk, Box 568, Columbia, Mo.

Dec. 7-8—Michigan Feed and Grain Dealers Assn.; Pantland Hotel, Grand Rapids, Mich.; sec., Nevels Pearson, Box 472, East Lansing.

1962

Jan. 29-31—Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Feb. 4-6—Wyoming Grain, Feed & Seed Dealers Assn.; Townsend Hotel, Casper, Wyo.; sec., Everett L. Berry, Box 118, Sheridan, Wyo.

Feb. 5-7—Association of Southern Agricultural Workers; Jacksonville, Fla.

Feb. 9-11—Poultry Fact Finding Conference; sponsored by Institute of American Poultry Industries; Municipal Auditorium, Kansas City, Mo.; pres., Harold M. Williams, 67 E. Madison, Chicago 2, Ill.

Feb. 14-15—Pacific Northwest Feed Mill Production School; Benjamin Franklin Hotel, Seattle; sponsored by Washington State Feed Assn.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 16 — Washington State Feed Assn. annual convention; Benjamin Franklin Hotel, Seattle; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 20-21—Virginia State Feed Convention and Nutrition Conference; Hotel Roanoke, Roanoke, Va.; sec., Virginia State Feed Assn., J. Paul Williams, 615 E. Franklin St., Richmond 19, or Prof. Paul M. Reaves, Dairy Science Dept., Virginia Polytechnic Institute, Blacksburg.

March 21-23—Grain & Feed Dealers National Assn.; Denver-Hilton Hotel, Denver, Colo.; Secretaries Circle meetings March 19-20; sec., Herbert L. Sharp, 401 Folger Bldg., 725 - 15th St. N.W., Washington, D.C.

April 9-10—National Institute of Animal Agriculture; Purdue University, Lafayette, Ind.; sec., Karl D. Butler, P.O. Box 521, First National Bank Bldg., Ithaca, N.Y.

Aug. 13-18 — 12th World's Poultry Congress; Show Grounds of the New South Wales Royal Agricultural Society, Sydney, Australia; Dr. Cliff D. Carpenter, chairman, U.S. Participation Committee, 1207 Emerald Bay, Laguna Beach, Cal.; Dr. A. William Jasper, secretary, c/o AFBF, 2300 Merchandise Mart, Chicago 54, Ill.

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Tons of Feed processed by DAFFIN FEEDMOBILES skyrocketing!
Graph shows tonnage of complete livestock and poultry feed made by Daffin Feedmobiles in U.S. and Canada. The steady growth is explained by the fact that feeders have been switching to Daffin Service at the rate of 500 a week.
1950 112,500 TONS
1951 206,250 TONS
1952 375,000 TONS
1953 596,550 TONS
1954 1.10 Million TONS
1955 1.95 Million TONS
1956 3.12 Million TONS
1957 4.03 Million TONS
1958 4.82 Million TONS
1959 5.73 Million TONS
1960 6.56 Million TONS
1961 Estimated 7.72 Million TONS
1961 TONNAGE ESTIMATES AT 7,718,750 TONS!
For Daffin Owners this means PROFIT from processing charges, concentrate sales, molasses sales. Customers available everywhere, ready and willing to join your Daffin Mobile Milling Routes! Write for the facts.
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Dakota-Bismarck-Fargo-Minot • Ohio-Cleveland-Dayton-North Lima-Toledo • Oklahoma-Oklahoma City-Tulsa • Pennsylvania-Lancaster-Wexford • South Dakota-Sioux Falls • Tennessee-Knoxville-Memphis
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Additive Petition Filed for Amprolium

WASHINGTON — The Food and Drug Administration has announced the filing by Merck & Co., Inc., of a food additive petition proposing issuance of an amendment to the regulation covering amprolium, a coccidiostat.

The petition asks that the regulation be amended by deleting that part of the regulation requiring that the medicated feed be withdrawn four days prior to slaughtering the birds for food. Also proposed is a regulation amendment establishing tolerances for residues of amprolium of 1.0 part per million in uncooked liver and kidney and 0.5 part per million in uncooked muscle of chickens and turkeys.

Sales Assistant Named

MILWAUKEE — The appointment of Warren J. Holehouse as assistant sales manager of Stearns Magnetic Products Division of Indiana General Corp. here has been announced by D. F. Christnelly, sales manager.

Mr. Christnelly said that Mr. Holehouse will act as liaison between the Stearns home office and field sales offices as well as overseeing current product development and changes and additions in representative organizations.

Stearns manufactures magnetic separation equipment.

THE VINELAND® POULTRY HEALTH PROGRAM

KEEPS FEEDMEN IN THE FEED BUSINESS!

In areas of concentrated poultry production, increased pressure has been put upon feed dealers to convert them from feedmen into "medicine men." You're asked to prepare small mixes containing an almost endless variety of medications . . . even to recommend such mixes.

No wonder more and more feed dealers are recommending and installing the Vineland Poultry Health Program of automatic water medication, using the Crown Proportioner and Vineland Crown-Pak medications. It slashes mill operating costs, eliminates medicated feed mixes, and best of all—takes medication and treatment responsibility from the shoulders of the feed dealer. Stop being a "medicine man." Investigate the Vineland Poultry Health Program!

Crown-Pak medications are pre-measured, soluble powders, packed in plastic bags. Simply pour the contents of one Crown-Pak into the necessary water and stir. Then drop the "feeder tube" from your Crown Proportioner into the solution and the flock is under treatment.

VINELAND® SANI-TIZOL

Works 5 Ways to Improve Flock Returns!

SANI-TIZOL does more than keep drinking water fountains and pans sparkling clean without constant scrubbing—it's a "program" that halts the spread of disease, even cuts down weight losses and condemnations.

With SANI-TIZOL, water consumption goes up because of a special added taste factor, yet its medicinal action keeps droppings firm. Broiler flock mortality and weight losses from non-specific enteritis are reduced. Available in premeasured Crown-Paks for use with the Crown Proportioner.

With SANI-TIZOL you get five major benefits, plus the special taste factor—for LESS THAN THE LABOR COST OF KEEPING FOUNTAINS CLEAN!

VINELAND® VITALIZER

A New and More Effective Antibiotic-Vitamin Mix That Puts Livestock and Poultry Back on Feed Fast!

There's nothing that brings animals back on feed faster than Vineland VITALIZER. It's a powerful combination of penicillin and streptomycin, plus eight essential vitamins, that fights minor infections, stimulates appetites and brings them back to the peak of health.

High level administration for 3 to 5 days fights vaccination stress or outbreaks of CRD, Bluecomb, Enteritis or Sinusitis. Works quickly and is highly effective. Many poultrymen use it at continuous low levels to get chicks and poults off to a fast healthy start.

The **Vinelab® Crown Proportioner** blends precisely one ounce of concentrated medication with every gallon of water. It's installed right in the drinking water lines, and operates on water pressure alone. No pumps, motors or electricity.

Other Products in the Vineland Health Program of Water Medication

WATER A EMULSION

The quickest, economical way of meeting the need for Vitamin A in the feeding and treatment of poultry and livestock.

ASCORBISOL-K

A combination of Vitamins C and K for treating hemorrhagic disease and maintaining shell thickness of eggs during hot weather.

PIPERAZINE WORMER

To eliminate large roundworms in chickens, turkeys and hogs.

S Q SOLUBLE

Highly-concentrated sulfaquinoxaline for the treatment and control of coccidiosis, scours, hog enteritis and fowl cholera.

AQUA TWIN BIOTIC

A combination of dihydrostreptomycin and streptomycin highly effective for treating CRD, Bluecomb and non-specific enteritis in chickens, turkeys and hogs.

COPPER-K

A combination of copper sulfate and an acidifying agent, fortified with a synthetic Vitamin K for gizzard and crop erosion, trichomoniasis in chickens and turkeys, and hexamitiasis in turkeys.

VITAPOL

A highly-concentrated combination of important vitamins for diet supplementation, and for all animals undergoing stress.

VINELAND® NEWCASTLE and BRONCHITIS WATER VACCINES

Famous the world over for their effectiveness in dealing with these major diseases. Unsurpassed for purity, potency and effectiveness.

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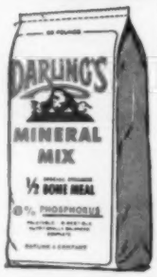
MIXING MINERAL CONCENTRATE

For *custom mixing*. Contains *9% phosphorus*—up to *3 times* that of ordinary mixing minerals. This concentrated formula, in 25 lb. bags, saves *one-half* on freight and storage. Easier handling, too. More profit for you—and a better buy for your customers.

DARLING'S
Free-Choice MINERAL MIX

Formulated with one-half special steamed bone meal . . . DARLING's mineral mix contains *6% phosphorus*. It's *all feed*, every ingredient digestible and highly available. DARLING continues to offer its *money-back guarantee* that all livestock will eat it *free choice*.



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SOYBEANS

(Continued from page 164)

rate of extraction of soybean oil from soybeans by 60-70° C. petroleum ether in a Goldfisch fat extraction apparatus correlates well with biological availability. Soybean oil that is well digested by the chick in samples of flaked or pelleted soybeans is rapidly extracted from the samples under the above conditions. Nearly 90% of the oil in these materials can be extracted in an hour. However, four hours are required to extract 90% of the soybean oil in ground soybeans under the same conditions. Therefore a processing procedure which markedly increases oil extractability from a soybean sample also appears to increase the digestibility of the oil by the chicken. This method should be useful in rapidly evaluating oil availability in processed whole soybeans.

The above studies have demonstrated that soybeans can be a good source of energy as well as protein for chicks. Heat treatment and some means of increasing oil availability to the chick are essential before soybeans can be used to the fullest advantage in poultry feeding. Flaking soybeans or pelleting diets containing ground soybeans are two methods that will increase oil availability. Other methods of applying mechanical pressure to the soybean may work equally as well. Heat treatment can probably be done a number of ways in several types of equipment. The conditions found to be right in the laboratory need to be translated to conditions that will do the job economically in large quantities.

The economic conditions prevailing a few months ago that made economic use of soybeans in poultry feeding a possibility do not exist today. However, information is accumulating on how to use soybeans for poultry which will be helpful when the price situation again warrants their use in poultry feeds.

v v

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Sales Increase

WEST SPRINGFIELD, MASS.—Another record year for dairy feed sales has been predicted for Eastern States Farmers Exchange. The prediction is based on sales figures through February, a spokesman said.

For the first two months of 1961, the cooperative's patrons purchased 11.7% more dairy feed than in the corresponding period of 1960. The product "Tastibulk" showed the biggest sales gain, with a 19.3% increase over last year, while "Milkerpels" sales figures were said to have apparently reached a temporary plateau. "Milksaver" was said to show the influence of expanded sales effort.

Turkey and Chicken Testings Show Gain

WASHINGTON—Testings of heavy breed turkeys for pullorum disease during March totaled 112,718—up 39% from March, 1960, reports the U.S. Department of Agriculture. Heavy white breeds tested totaled 84,988—up 54% from March, 1960. Other heavy breeds (mostly broad breasted bronze) tested totaled 27,730—up 8% from March last year.

Testings of all heavy breed turkeys July through March, 1961, of 3,970,003, were up 37% from this period a year earlier—testings of heavy white breeds were up 64%, and other heavy breeds were up 26%.

Testings of light breeds during March totaled 63,078, compared with 28,624 in March, 1960. Testings for the period July, 1960, through March, totaled 401,543—up 15% from these months a year earlier.

Testings of turkeys, all breeds, for the 9-month period July, 1960, through March, totaled 4,371,546, compared with 3,248,714 during this period a year earlier—an increase of 35%. During the period, heavy whites tested increased 64%, other heavy 26% and light breeds 15%. The testing of turkey breeders is now approaching the low period of the annual cycle.

During March testings of chickens for supplying broiler-chick hatching eggs totaled 2,290,351—up 34% from March, 1960. The cumulative total for the period July, 1960, through March totaled 21,015,486, up 7% from this period a year earlier.

Chickens tested in March for supplying eggs for hatching egg-type chicks totaled 415,217, up 11% from March, 1960. For the months July, 1960, through March, testings totaled 10,329,395, compared with 11,388,955 during these months a year earlier—a decrease of 9%.

Report Survey on Antibiotic Preservative

NEW YORK—Effectiveneess of an antibiotic in preserving grass silage has been further confirmed by a survey of farmers and by agricultural experiment station tests, reports Commercial Solvents Corp., New York.

CSC says farmers of Massachusetts, Indiana, Vermont, New York, South Carolina, Connecticut, New Jersey and Pennsylvania who purchased and used zinc bacitracin in their silage reported it to be "a simple and economical means of eliminating offensive odors, improving palatability and reducing forage spoilage." The survey also noted that farmers found that the antibiotic was neither toxic nor corrosive to equipment.

CSC reports also that experiment stations in various parts of the country "continue to report excellent results demonstrating increased protein content of the treated silage, as well as its improved digestibility, with no antibiotic residue in the milk."

GTA Completes Premix Plant to Serve 9 Other Mills in Three States

ELLIS, S.D. — A semi-automatic feed manufacturing installation designed to turn out 30 tons of feed an hour was dedicated here May 3 by Farmers Union Grain Terminal Assn. (GTA), headquartered in St. Paul, Minn. As a manufacturer of premixes, the plant will serve as GTA's "mother" mill for nine "satellite" mills operated by the cooperative in Montana, Minnesota and North Dakota.

Construction of the Ellis mill and another new mill at Edgeley, N.D., which has a production capacity of about 20 tons an hour, completes GTA's current program for expansion of feed production facilities in the Upper Midwest.

Premixes will be shipped from the Ellis plant, GTA officials related, to the Edgeley mill and to eight others in Glendive and Great Falls, Mont.; Perham, Montgomery and Montevideo, Minn., Minot, Hunter and Williston, N.D.

12 Men Operate Plant

GTA notes that its Ellis mill is operated by a labor force of 12 men. It stands on a 16-acre site which has handy access to both railroad and truck shipments.

GTA officials said they picked the location in view of the rapidly expanding livestock production in the area and also as a central point from which premixes will be shipped to GTA's nine other feed mills throughout the Upper Midwest.

The Ellis mill manufactures premixes, concentrates—in mash, pellet or crumble form—and mineral supplements. It is equipped with two hammermills, a 3-ton mixer, a 1-ton premixer, two pellet mills, two automatic baggers and two fork-lift units.

Five Basic Sections

Five basic sections make up the mill structure: Ingredient storage, grinding, milling, packing and bulk loading. Also, the installation has a truck dump shed, rail unloading facilities, two warehouses and a large office area. Space for further expansion was included in the plans.

Within the structure are 73 bins with total capacity of 23,000 bu. of whole grains and 2,000 tons of ingredients and finished feeds. Also, there are storage tanks for fats, fish solubles and molasses.

GTA entered the feed business in 1958 with the purchase of the McCabe line of elevators and feed mills and its consolidation with the Great Plains Supply Co., another cooperative.

In 1960, GTA bought the Commander line of elevators from Archer-Daniels-Midland Co., Minneapolis, and the Honeymead Products Co. soybean processing plant at Mankato, Minn.

MAJORITY STOCK PURCHASE

DENVER, COLO.—David A. Hamil has purchased the majority block of stock in the Valley Dehydrating Co., Atwood, Colo. The former GOP speaker of the house in the Colorado legislature, and until recently, national REA administrator, bought the alfalfa plant from William Seckler, Sterling feedlot operator.

Quality controlled production to assure repeat business

RED W BRAND Protein Concentrates

THE potency of this natural formulation continues effective generation after generation. Red W Brands are carefully controlled in processing by Wilson for quality, uniformity, and purity.

So you can be enthusiastic in recommending Red W Brand protein concentrates to any farmer or feeder. Hogs and poultry are by nature meat eaters. They need the unisolated growth factors present in natural protein and feeding fat.

When you sell Red W Brand Meat and Bone Scraps, Digester Tankage, and Vitagen Feeding Fat you're selling nature's own formula... giving your customer the high energy feed he needs. Red W Brand builds repeat business... puts meat on the animal... money in the till.

Animal Protein Concentrates and Vitagen Feeding Fat

The BEST Ingredients Make BETTER Feeds

RED W BRAND 50% Meat and Bone Scraps
RED W BRAND 60% Digester Tankage
RED W BRAND Steamed Bone Meal
RED W BRAND Vitagen Feeding Fat

Write or telephone for quotations on any quantity you need!

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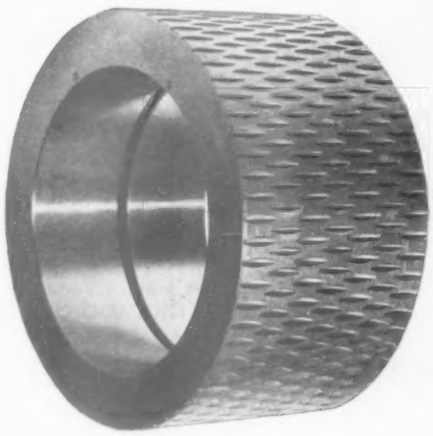
NEW PELLET MILL ROLL



delivers FULL PRODUCTION

increases ROLL AND DIE LIFE

NOW! A new and revolutionary type of corrugation (see above photo) assures you of longer pellet mill roll and die life. A crescent design—featuring greater depth of corrugation—delivers greater gripping power than conventional V-type corrugation and absolute self-cleaning action, even with high fat rations. This design, now proved in more than 100 mills, traps feed to stop wash out in rolls and dies . . . assures full utilization of all die holes. Exclusive corrugation pattern also means less bearing and seal costs because of longer roll life. If your pellet mill is operating at only one-third or one-half of capacity, get the facts now on the CRESCENT Pellet Mill Roll and keep the entire die face producing—without loss of outside rows of die holes. Available in competitive or premium alloy steels. Now in service in more than 813 mills including major manufacturers.

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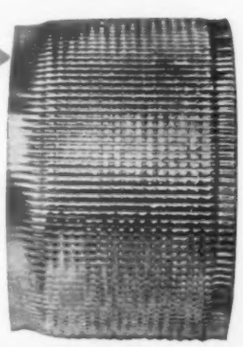

The actual unretouched photo at right shows a roll which, when removed, had lost 33 percent of the die capacity. How many of your dies are only half used at one-third to one-half production? Write now on your letterhead describing your type of mill and we'll rush complete information.

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Major Staff Promotions Announced by PENB

CHICAGO—Two major staff promotions have been announced for the Poultry & Egg National Board, according to Lloyd H. Geil, general manager.

Mrs. Kathryn Bele Niles, director of the department of home economics since PENB's founding in 1939, has been elevated to the newly-created post of consultant to the general manager. Replacing her in the top home economics post is Miss Bernice Stilwell, who has served as assistant director of the department of home economics for the past year.

Mrs. Niles will work closely with the general manager in the broad areas of administration and program development.

As head of the department of home economics, Miss Stilwell will be responsible for the development and testing of recipes for distribution to and use by the nation's food writers, the creation of new uses for eggs and poultry meats and the maintenance of a closer working relationship with all media-disseminating food information to the nation's 180 million consumers.

RECEIVES SALES "OSCAR"—Keith C. Cummings, right, general sales manager of Specifide, Inc., Indianapolis and Des Moines, is pictured here receiving a distinquished salesman's award from Kenneth F. Valentine, president of the Pitman-Moore Co., at a recent meeting of the Indianapolis Sales Executive Council. The award honors Mr. Cummings for a record of advancement which extends from sales representative, territory supervisor, division manager to general sales manager of the company with which he started in 1956. Mr. Cummings is manager of the "farmaceutical" firm's Iowa division in addition to being general sales manager of the entire Specifide organization.

CHAMPION

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This newly designed One-Diesel-Engine unit reduces power costs to fifteen cents or less per ton—INCLUDING FUEL USED ON THE ROAD.

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See Champion at the National Feed Show—Booths 92, 93, 94, 95
Conrad Hilton Hotel, May 7-10

OPTIONAL EQUIPMENT AVAILABLE

SHELLER with high discharge for loading cobs directly into truck or trailer.
AIR UNLOADING plus standard auger.
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ROLLER MILL.
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VOLUME MEASURING UNIT measures by bushel, all grain being ground.

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FHA Loan Policies To Aid Broiler Men

JACKSON, MISS.—Farmers Home Administration policies have been liberalized to assist family-type farmers in the production of broilers or eggs in connection with their other farm enterprises, it was announced here by T. B. Fatherree, Mississippi director of the federal agency.

Mr. Fatherree said that loans will not be made to establish new operators in large commercial poultry enterprises for the production of meat birds or eggs, but that FHA loans will be made to establish or expand small poultry enterprises needed to supplement other farm income, if the total poultry enterprise will not exceed 10,000-broiler capacity or 1,500-layer capacity flocks.

Previously, FHA policies limited assistance to poultry producers to 5,000 broilers or 700 layers as an additional income.

Mr. Fatherree said that this change will help boost the farm income of many family-type farmers who need an additional enterprise on their farms.

He stated further that established family-type farmers whose income is primarily from the production of meat birds or eggs may receive FHA assistance in financing such an enterprise including the making of adjustments as necessary for a sound operation provided they have a good record of operations, they have the managerial ability to successfully carry on the proposed operations and the total farming operations will not exceed family-type.

He also indicated that FHA loans can be made to establish poultry producers who are otherwise eligible to finance their customary level of poultry operations provided they have a good record of operations and adequate credit sources are not available.

Mr. Fatherree stressed that any and all types of FHA loans are made only to eligible applicants who cannot obtain adequate credit from conventional sources.

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Dow Announces Two Zoamix Service Items

MIDLAND, MICH. — Two new service items for users of Zoamix have been announced by The Dow Chemical Co. The items are a kit for assay of Zoamix coccidiostats in feeds and disposal boots to aid in preventing spread of disease on shoes.

Dow's announcement says that the assay kit is based on a "simple color test for determining Zoamix in feeds. The method was developed by Dow's agricultural chemicals research department. Packed in a metal carrying case, the kit contains 46 vials of a solvent and two vials of a reagent in tablet form. A sample of the feed is placed in a solvent vial along with a reagent tablet. A green color reaction shows the presence of Zoamix in the feed. The method can be used qualitatively to determine the presence of Zoamix in feeds or, by selected sampling, can be used to test even mixing through the feed. The entire kit is thrown away after all vials have been used."

TEST KIT—The Dow Chemical Co. says that this kit contains all materials needed for a quick, accurate assay of Zoamix in finished feeds. All components of the kit are thrown away after use, according to the firm's announcement.

"The kit has been developed in response to a need in the industry for a simple, quick qualitative assay method for coccidiostats in feeds," Hollis H. Brower, manager of feed industry products, commented.

The boots are fabricated from polyethylene film and are slipped on over shoes and tied around the ankle, the Dow announcement said. Each pair of boots can be thrown away after use. The boots are packaged in a paper roll so a supply can be kept in a car or briefcase.

"The use of the protective boots avoids the hazard of spreading disease from one location to another," the firm said.

Both service items are available from Dow feed industry products salesmen, the announcement concluded.

Hales & Hunter Names Development Manager

CHICAGO—Appointment of Jack C. Ping, formerly central region sales manager for Hales & Hunter Co., to a new position as market development manager has been announced by Edward E. Woolman, executive vice president.

Jack C. Ping

In his new position, Mr. Ping will seek new communities which qualify for the Hales & Hunter Co. expansion program, according to Mr. Woolman. He said that the program, in many instances, may include the building of new facilities in the communities selected.

Mr. Woolman said that Mr. Ping has developed and operated three successful sales territories and has had four years of experience in sales training and planning and six years in sales and marketing management.

James Manufacturing Buys Makomb Line

FT. ATKINSON, WIS. — James Manufacturing Co. here, producer of barn, hog and poultry equipment, has announced the purchase of the Makomb poultry equipment line of Honeggers' & Co., Fairbury, Ill.

C. A. Hanson, James president, said the Makomb poultry equipment manufacturing facilities, located in Taylorville, Ill., will be moved to the James plant here, and that William Sauder, general manager of the Makomb division, will become manager in charge of special accounts for James.

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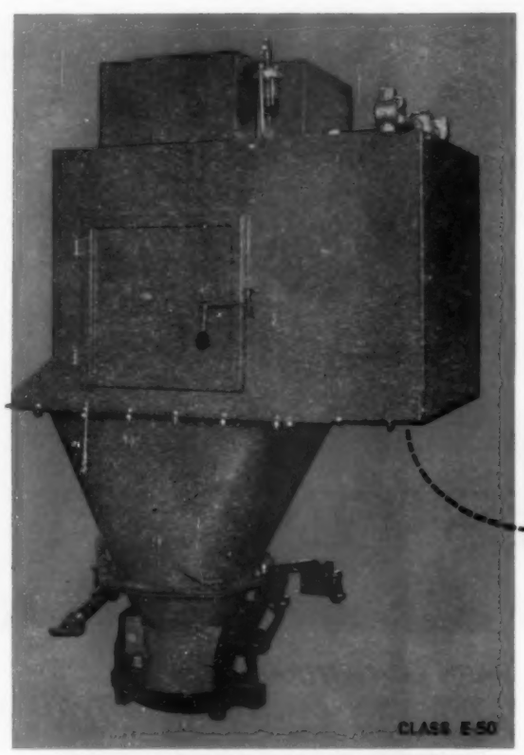

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Pfizer Executive Discusses Company's Agricultural Growth

NEW YORK—New products and improved services for agriculture as well as medicine and industry are emerging from a coordinated worldwide research program now directed by scientists for Chas. Pfizer & Co., Inc., according to John E. McKeen, president of the drug and chemical firm.

Addressing share owners and guests at the firm's annual meeting in Brooklyn, Mr. McKeen told of developments in the feed supplement and animal health areas as well as allied accomplishments in new vaccines and other medicinals and chemicals in the human and industrial fields.

The company, he noted, has established a new research post within the Pfizer Medical Research Laboratories at Groton, Conn., for specialized studies in agriculture. He pointed out that research efforts had made possible the introduction of a number of new agricultural products this past year, including Liquamycin Injectable and Mastalone, veterinary products, and A/D Fortified Crumbles, a vitamin-fortified animal health product. Several new agricultural and veterinary products will be forthcoming soon, he added.

Mr. McKeen stressed Pfizer's "continuing interest in cooperative research with agricultural colleges." During 1961 studies will be conducted across the nation under grants from the firm.

"We are also devoting considerable time and energy in agricultural research in other parts of the world," said Mr. McKeen. "Our research in any particular country reflects the agricultural conditions prevailing in that area. For example, in many countries livestock are allowed to graze on open ranges and are rounded up at marketing time. Since these animals cannot easily be reached for individual feeding and treatment, we are interested in developing long-lasting repository forms of our drugs and nutrients which would obviate some of the problems in caring for these range animals."

Mr. McKeen went on to say that in the agricultural field, Pfizer is becoming "more and more service-minded." He cited the changes in agricultural operations and the need for more personalized service. Noting examples of service, he mentioned the Cullman, Ala., laboratory where poultrymen can have diagnoses made on diseased poultry and receive other help at no cost. During 1960, this Pfizer facility serviced 1,050 flocks representing 14 million broilers and 100,000 laying hens. Another laboratory at Forest, Miss., will be opened this summer.

Mr. McKeen also told shareholders of the work of agriculture scientists at the firm's research center at Terre Haute, Ind., pointing out that the scientists "are continually on call to counsel and help customers."

Squibb Asks Clearance Of Nystatin for Pigs

WASHINGTON — The Food and Drug Administration announced that a food additive petition for use of nystatin in swine feed has been filed by E. R. Squibb & Sons.

Squibb filed a petition asking issuance of a regulation providing for use of nystatin in swine feed at a level of 20 grams per ton for growth promotion.

Amprolium-Antibiotic Petition Goes to FDA

WASHINGTON — The Food and Drug Administration announced that Merck & Co. has filed a food additive petition seeking use of the coccidiostat amprolium in combination with certain antibiotics at certain levels in poultry feeds.

FDA said the petition proposes issuance of a regulation providing for use of amprolium in combination with: (1) 15 grams of penicillin and 75 grams of streptomycin, and 50 to 200 gm. of chlortetracycline per ton of feed as an aid in the prevention or treatment of certain diseases of chickens; (2) not more than 50 grams of bacitracin, zinc bacitracin, manganese bacitracin or bacitracin methylene disalicylate per ton of feed as an aid in stimulating the growth and improving the feed efficiency of chickens and turkeys.

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AGRICULTURE COLLEGE, EXPERIENCE in: Mill machinery, cattle feeding, brokerage, sales. 33 years. 402 E. Bennett, Glendora, Cal.

POSITION WANTED—MEXICO OR LATIN America. Have working papers in Mexico plus pilot's license U.S.A. and Mexico. Buying, selling and feeding experience. Presently employed as administrator of cattle fattening operation in Mexico. Complete resumé and references on request. Fluent Spanish. W. A. Glasscock, Apdo. 18, Limon, Tamps, Mexico.

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FOR SALE — MODERN FEED PLANT: grinding, mixing, hulling, rolling, bulk feeds, also two mobile mills. With two sub dealers. Located in southeastern South Dakota. Priced to sell. Address Ad No. 6858, Feedstuffs, Minneapolis 40, Minn.

FOR SALE—FEED PLANT LOCATED IN good farming area in S. E. South Dakota, 200,000 bu. grain storage. Selling complete line, 10,000 tons yearly. Now operating at profit. Personnel of proven ability. Priced to sell. Address Ad No. 6812, Feedstuffs, Minneapolis 40, Minn.

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CHAMPION MOBILE GRINDER AND mixer mills. Champion Portable Mill Co., 2105 Como Ave. S.E., Minneapolis 14, Minn.

WHIRLAWAY AIRBLAST CAR LOADERS, cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P.O. Box 574, Jefferson City, Mo.

FEED MIXER, 1-TON CAPACITY, GUAR-anteed first-class throughout, 5 H.P. motor drive. Address Ad No. 3479, Feedstuffs, Minneapolis 40, Minn.

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HAMMERMILL—24" STRONG-SCOTT RE-mote screen change, used less than one year, with base and coupling for direct drive. For information contact Jacobson Machine Works, Inc., 1090 Tenth Ave. S.E., Minneapolis 14, Minn.

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Young man wanted with experience in credit and general knowledge of accounting. Familiarity with poultry financing and contract feeding would be helpful. Man should be sales minded with mature judgment and ability to get along well with dealers. This is a career opening with well-established feed manufacturing company in the Southeast.

In your confidential reply, give details of educational, personal and experience background and salary requirements. Address No. 6851, Feedstuffs, Minneapolis 40, Minn.

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New Applications for Cyzine Use Okayed

NEW YORK—Feed manufacturers making turkey feeds may now obtain Food and Drug Administration acceptance of feeds containing Cyzine 2-acetylamino-5-nitrothiazole Premix 10%, according to American Cyanamid Co. officials. Cyzine is a preventive and treatment for turkey blackhead.

FDA had previously refused to accept applications from feed manufacturers intending to use Cyzine for the first time, Cyanamid explained. This refusal was based on the FDA view that certain technical requirements of the food additives amendment must first be fulfilled. Work on those requirements is now in progress. FDA has extended the effective date of the amendment as it affects Cyzine, making it possible for new applications to be submitted.

Feed manufacturers who want to make application may obtain kits containing the required forms and instructions for filling them out from the American Cyanamid agricultural division in New York or from any Cyanamid animal industry sales representative.

Feed manufacturers who are now authorized to use Enheptin A 2-acetylamino-5-nitrothiazole 15% may switch to Cyzine without submitting new applications. Those manufacturers need only notify FDA, by letter, of the change in formula.

Feedlots Under Fire Of South Omahans

OMAHA—Livestock feedlots came under fire from a delegation of south Omahans at a recent city council hearing.

Mrs. F. V. Lubischer called for the council to ban new livestock feeding lots and to give those existing a year to move out of the city.

For five years, Mrs. Lubischer and her neighbors have been leading a drive to rid their area of flies by evicting feedlots.

Referring to a couple evicted by the city from a home in the path of a highway development, Mrs. Lubischer said, "You can evict people from their homes for a highway, why can't you do the same with feedlots?"

The matter came up as the council held public hearing on restoring a provision to the city code which it was said was inadvertently left out when it was recodified.

The section exempts packing houses, stock yards, feedlots, serum plants, biological laboratories, livestock exhibitions, shows, rodeos and race meets from provisions of the animal ordinance.

Mrs. Lubischer's group objected only to the feedlot portion.

City Attorney Herbert M. Fitle said the U.S. Public Health Service made a number of recommendations for reducing Omaha's fly population.

"These things can't be done overnight," he reminded the delegation.

Mrs. Lubischer replied that "not one thing has been done on the recommendations for five months."

Al Veys, the council's representative on the City-County Health Department, said the city has delayed too long and requested action.

Extend Aid Deadline

WASHINGTON—The U.S. Department of Agriculture has announced that the emergency livestock feed sales program is being extended in four Idaho counties, seven South Dakota counties and two Wyoming counties, previously designated under the program.

Cut-off date for assistance in all these counties had been April 30. Under this program, producers in designated emergency areas may buy government-owned feed grains at current support prices to provide feed for livestock.

ATTEND DEDICATION—Among the more than 3,000 persons who attended the dedication of the new O. A. Cooper Co. feed mill at Cozad, Neb., were, from left: Hoyt Griffin, president, Cozad (Neb.) Industrial Corp.; Frank Morrison, Nebraska's governor; Leland Johansen, Cozad's mayor; John Cooper, executive vice president of the Cooper firm, and Guy Cooper, president.

O. A. Cooper Firm Opens New Mill at Cozad, Neb.

COZAD, NEB.—During a two-day celebration that attracted more than 3,000 western Nebraska farmers, ranchers, feed dealers, townspeople and stockholders, the O. A. Cooper Co. marked the opening of its new, modern feed mill at Cozad.

The affair included a special barbecue for dealers, customers and friends on Sunday afternoon, April 16, and an open house all day on Monday for the people of Cozad and surrounding territory. Guests included Nebraska's governor, Frank Morrison, as well as Nebraska industrial and agricultural development officials.

Tours of the $500,000 mill were part of the festivities on both days. Guests received free gifts, and coffee and doughnuts were served all day long.

The new mill manufactures a complete line of hog, cattle and poultry feeds. Bulk handling facilities and fast and highly flexible production methods are features of the new mill, said officials of the Cooper firm. The new plant will serve Cooper dealers in western Nebraska, Colorado, South Dakota and Wyoming. The plant also contains a protein block machine. Cooper has a block machine at its Humboldt mill, too.

John Cooper, executive vice president of the company, said the company picked central Nebraska for its new location "in order to get feed to the feeder at a lower price.

"We also view this plant as a cooperative matter with the people of the region. If we can help provide better profits from wheat, meat and eggs, we will automatically profit. It's that simple."

Dealers attended from eight states including Colorado, Missouri, Kansas, Iowa, Nebraska, South Dakota, Wyoming and Minnesota—every state where Cooper does business.

Company officials in attendance were Guy Cooper, president; John Cooper, executive vice president; H. K. Seits, sales vice president; Joe Genoa, western division vice president; Cal Hunzeker, production vice president; R. D. McClure, purchasing vice president; K. W. Burow, traffic vice president; Charles Johnson, secretary, and Ralph Price, treasurer. One member of the board of directors, Cooper MacMurray, came all the way from San Bernardino, Cal., for the dedication. Other directors present included M. N. Hughes and Ervin Burkholder.

FROM THE AIR—This is an aerial view of the O. A. Cooper Co.'s new livestock and poultry feed mill at Cozad, Neb. The picture was snapped from an airplane during a recent two-day event which marked the opening of the mill.

Missouri Grain, Feed Program Announced

ST. LOUIS—The program for the Missouri Grain & Feed Assn. convention to be held here at the Coronado Hotel May 14-15 has been announced. Program topics will range from financial aspects of the feed and grain industry to a report on cooperation of educational institutions, feed industry and extension workers.

Slated for the afternoon of May 14 are registration and a directors' meeting with a buffet dinner following.

The program for May 15 includes the following speakers: Donald E. Smith, director, Kansas City Branch Commodity Stabilization Service, "The Kansas City CSS Office Operation"; Jack Kroeck, executive director, Missouri Veterinary Medical Assn., "Your Veterinarian Is Important to Your Business"; Dr. C. B. Ratchford, dean and director of extension, University of Missouri, "We Three," telling how university, feed industry and extension can work together; Clifton B. Luttrell, manager and agricultural economist, research department, Federal Reserve Bank, St. Louis, "Some Financial Aspects of the Grain and Feed Industry in Missouri," and Dr. Earl C. Spurrier, Monsanto Chemical Co., St. Louis, "Looking Ahead With Chemistry for Agriculture."

Also Harold R. Southworth, Food and Drug Administration, "FDA's Clean Grain Program"; Alvin E. Oliver, executive vice president, Grain & Feed Dealers National Assn., Washington, "Washington Reports on the Grain and Feed Industry," and Dave Livingston, Washington, Iowa, farmer, "Potshots Around the World."

Stocks of Grains, April 1, 1961, with Comparisons
(In thousand bushels)

Grain and position	April 1 av., 1950-59	April 1, 1960	Jan. 1, 1961	April 1, 1961
WHEAT—				
On farms*	223,285	204,478	421,469	257,823
Commodity Credit Corp.†	57,109	62,589	77,940	72,259
Mills, elevators and warehouses* ‡	748,280	1,295,163	1,568,024	1,375,832
TOTAL	1,028,674	1,562,230	2,067,433	1,705,914
RYE—				
On farms*	5,987	5,185	11,441	7,356
Commodity Credit Corp.†	26	281	403	399
Mills, elevators and warehouses* ‡	9,196	8,500	13,802	12,350
TOTAL	15,209	13,966	25,646	20,105
CORN—				
On farms*	1,492,921	2,044,359	3,059,874	2,069,800
Commodity Credit Corp.†	426,088	558,667	688,102	682,475
Mills, elevators and warehouses* ‡	275,566	760,522	952,471	897,221
TOTAL	2,194,574	3,363,548	4,700,447	3,649,498
OATS—				
On farms*	500,311	423,898	765,926	482,942
Commodity Credit Corp.†	1,354	919	1,064	900
Mills, elevators and warehouses* ‡	56,604	60,621	84,060	74,864
TOTAL	558,269	485,438	851,050	558,706
BARLEY—				
On farms*	101,288	120,806	202,107	126,407
Commodity Credit Corp.†	1,626	11,509	13,148	13,060
Mills, elevators and warehouses* ‡	79,106	113,370	139,386	105,245
TOTAL	182,020	245,685	354,641	244,712
SORGHUM GRAIN—				
On farms*	**	111,031	281,086	108,218
Commodity Credit Corp.†	633	3,840	5,259	5,234
Mills, elevators and warehouses* ‡	146,268	633,069	810,231	745,390
TOTAL	**	747,940	1,033,576	858,842
SOYBEANS—				
On farms*	78,280	141,283	172,444	72,534
Commodity Credit Corp.†	275	159	291	16
Processing plants††	51,687	64,803	110,603	97,343
Mills, elevators and warehouses* ‡	50,582	101,683	141,139	94,452
TOTAL	180,823	307,928	424,477	264,345
FLAXSEED—				
On farms*	10,623	5,392	9,520	5,396
Commodity Credit Corp.†	8	0	0	0
All others* ‡	13,461	4,421	12,148	9,991
TOTAL	24,084	9,813	21,668	15,387

*Estimates of the Crop Reporting Board.
†Owned by CCC and stored in bins or other storages owned or controlled by CCC; other CCC-owned grain is included in the estimates by positions.
‡All off-farm storages not otherwise designated, including flour mills and terminal elevators.
**Farm stocks not available for April 1 prior to 1957.
††Firms reporting crushings and stocks of soybeans to the Bureau of the Census.

Corn, Milo Stocks Set Records

WASHINGTON — Stocks of corn, wheat and sorghum grain in all positions on April 1 continued at record levels, the U.S. Department of Agriculture said this week. Holdings of soybeans showed a decline, while flaxseed stocks increased sharply over the previous April. Oats stocks April 1 were 15% above a year earlier, but only slightly above average. Barley stocks were about the same as last year, but rye stocks were up.

Holdings of feed grains—corn, oats, barley and sorghum grain—totaled 141 million tons April 1, nearly one tenth above the previous record of 129 million tons on that date in 1960.

The April 1 inventory noted that corn stocks of 3,649 million bushels were 8% above the previous record of a year earlier. Sorghum grain stocks of 859 million bushels represented a sharp 15% increase over the previous high recorded in 1960.

PURINA DIVIDEND

ST. LOUIS—The board of directors of the Ralston Purina Co., meeting in St. Louis, declared a quarterly dividend of 35¢ per share of common stock, payable June 12, 1961 to shareholders of record May 22, 1961.

FOR ALL APPLICATIONS

PAXCO DEHYDRATED CORN COB MEAL is available in six grinds—from the coarsest to the finest — for all feed applications—roughage, pellets and as a carrier for molasses and feed additives. Write today to:

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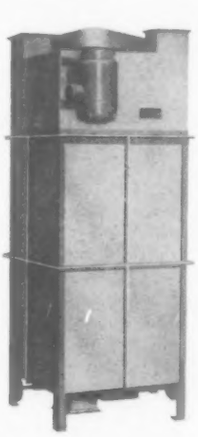

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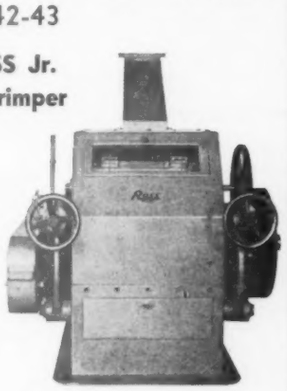

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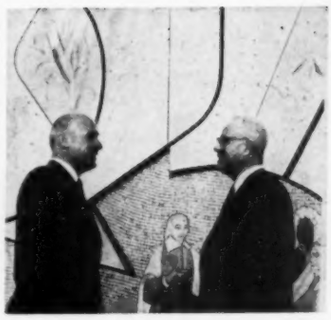
FDA to Amend Hygromycin Order

WASHINGTON — The Food and Drug Administration has issued an announcement of plans to delete a certain part of a food additive regulation on the use of hygromycin B in medicated chicken feed.

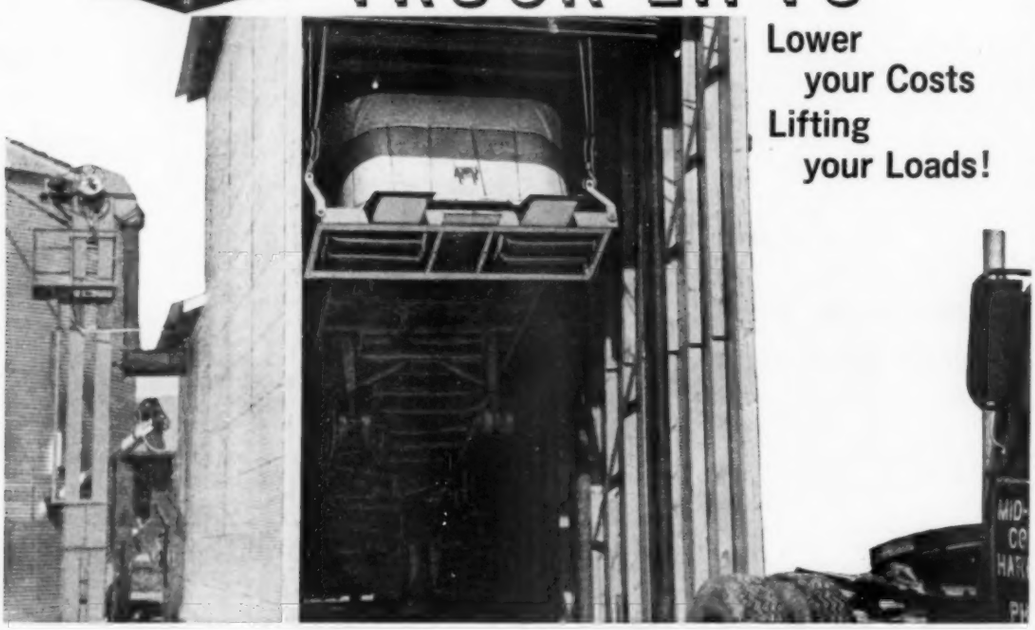
FDA noted that subsequent to publication of a regulation providing for addition of hygromycin to feed under certain conditions, a protest was submitted by Elanco Products Co., division of Eli Lilly & Co., and an amendment was requested.

FDA said that on the basis of original data and facts later accumulated, the agency has concluded that reasonable grounds for the protest have been shown. Therefore, the commissioner of food and drugs has proposed that the regulation be amended by deleting a part which reads as follows: "(4) If the additive is to be used as prescribed in paragraph (a) of this section, the label and labeling shall also include: (i) A statement that the medicated feed should not be used for laying hens. (ii) A statement that the medicated feed must be withdrawn 48 hours prior to slaughter."



NEW PFIZER BUILDING — Headquarters of the Agricultural Division of Chas. Pfizer & Co., Inc., has completed its move to the 17th floor of the new Pfizer International headquarters building at 235 East 42nd Street, New York. Shown above are H. O. Dermody, left, division assistant general manager, and J. J. Thompson, general manager of the division and firm vice president, in front of the 14 by 36 ft. mural tracing the evolution of science. The mural is one of the features of the 33-story building. Official spokesmen for the firm said that the consolidation of Pfizer's headquarters staff of 1,100 in one Manhattan building will add further efficiency and economy to the administration of the company's world-wide interests, including Pfizer organizations in 46 countries and distributor operations in 58 others.

EHRSAM TRUCK LIFTS



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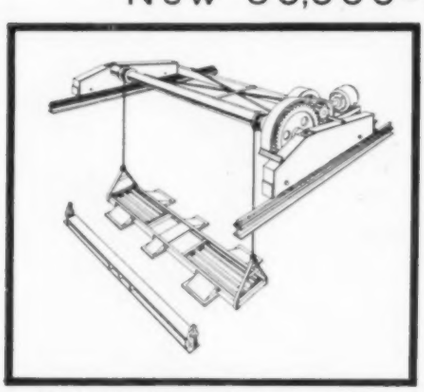
New 30,000-lb. Lift handles both



Standard wheel-type cradle is of arc-welded construction from formed steel channels. Below is the sturdy steel I-Beam with forged steel eyes. Write today for information.

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This unit is muscled for heavy-duty action... has the stamina of quality construction and engineered for long, service-free life. Efficient, versatile operation lowers lifting costs.

I-Beam hoisting bar is formed to snug up against fifth wheel... holds the load while the tractor is detached... lifts a 30,000-lb. load at 9 feet a minute. Eliminates hazards of lifting entire trailer-tractor assemblies. Quick-change features between standard wheel cradle and I-Beam hoist means nominal downtime during conversion.

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ET/L 1-461

1961 Oats Support Rates Set by USDA

WASHINGTON—The U.S. Department of Agriculture has announced the 1961-crop oats county support rates. Rates are based on the 1961 national average support price of 62¢ bu. for grade No. 3 oats, USDA says.

The department stated that the method followed in determining rates is the same as in previous years.

USDA said that while the 1961 national average support price is 12¢ bu. above the 1960 level, county rates are increased 13¢ bu. from 1960 rates because of shifts in production in the heavy producing areas where market prices are normally lower. Terminal rates are not established for oats.

Corn and grain sorghum producers who participate in the 1961 feed grain program will be eligible for price support on their 1961 crop of oats, USDA stated. Producers of oats who did not produce corn or grain sorghum in 1959 and 1960 and who do not produce these crops in 1961 will be eligible for support on their 1961-crop oats. Producers of corn and grain sorghum who do not participate in the 1961 feed grain program will not be eligible for support on 1961-crop oats, the department emphasized.

Oats to be eligible for support must grade No. 3 or better or No. 4 on the factor of test weight only, USDA said. County support rates have been established for grade No. 3 oats.

Sales Manager Named

JEFFERSON CITY, MO. — The new sales manager for Hagan Mill Machinery here is L. B. (Bill) Maun, according to announcement by J. E. Hagan, president of the firm.

Prior to accepting his new position, Mr. Maun was sales manager for E. H. Beer & Co., Baltimore, Md. It was also noted that Mr. Maun has a background in mill design and construction as well as allied fields of sales and engineering. He will make his headquarters in Jefferson City.

CHANGE LOCATION

NEW YORK — The Gilman Paper Co. and subsidiaries have moved their location at 630 Fifth Avenue, New York, to the Time & Life Building, Rockefeller Center, 111 West 50th Street, New York 20, N.Y.

Iowa 'Hog Ranch' Steps Up Building

RED OAK, IOWA — Construction activity has picked up at the K-R Iowa Hog Producers, Inc., "hog ranch" here.

A contract has been awarded for construction of five permanent buildings, signalling the start of a fully integrated hog raising program. Nine other five-building complexes will be erected before 1964.

Workmen for the Henningson Construction Co. of Atlantic, Iowa, were to begin work the week of May 7. They are to be finished by Oct. 1.

Cost of the five buildings, not equipped, is $153,000.

To be entirely steel with concrete floors, the new buildings will be twice the size of those comprising the pilot plant described in the April 22 Feedstuffs.

Where the farrowing house in the pilot plant handles 48 sows, the larger structure will handle 100. The weaning house and three finishing houses in this complex will have a 1,000 pig capacity each, twice that of the pilot buildings.

Each will be air conditioned, featuring feeding and manure and urine removal by conveyor.

Construction of a wooden sow and boar shed for K-R's breeding stock is to be completed May 15. That work is being done by Nelson Construction of Harlan, Iowa. It will be erected in stages. The first measures 40 ft. by 240 ft. and will house 400 sows. It will feature automatic feeding and watering and will be extended to 1,500 ft. as K-R operations near full stride.

Officials of the firm plan to start construction of their slaughtering plant this fall. The start originally was planned for next summer. That building should be in operation by summer, 1962.

Partners in the enterprise are Bert Render of Omaha and Lowell Kinnison of Red Oak.

Scholarship Winner

NEW YORK—The son of Herbert L. Schaller, manager of public relations for the agricultural sales division of Chas. Pfizer & Co., Inc., is one of two winners of the second annual scholarship awards sponsored by Pfizer for children of the company's employees. The youth is 17-year-old Ronald R. Schaller of Stamford, Conn. He and the other winner, Muriel Anne McKenna of Noank, Conn., share a common enthusiasm for mathematics and outer space. Selection of the winners was made by the National Merit Scholarship Corp. of Evanston, Ill., which supervises the awards for Pfizer. Ronald is a top student in high school and numbers mathematics as one of his top subjects. He plans to major in electrical engineering at Michigan State University.

GENERAL MILLS

(Continued from page 1)

at Nashville, Ark., from the South Ark Feed Co. (Feedstuffs, April 1.)

Arrangements were made at Owensboro, Ky., with Farmers Elevator, Inc.; at Crawfordsville, Ind., with the Shavers Feed Service; and at Chelsea, Mich., with the Michigan Feed Mill Co. (Feedstuffs, April 29), to produce animal feeds for the company.

"This is another step in making Larro Surefeeds readily available to farms in potential livestock and poultry feed areas," said Mr. Woolley.

Earlier, General Mills announced plans for three new feed milling and distribution centers in eastern areas. This brought to six the number of new feed centers announced in that region in the past 15 months. (Feedstuffs, April 1.)

MEMBERSHIP GROWTH — The Membership Expansion Day of the Grain & Feed Dealers National Assn. brought in a "deluge" of membership applications to the headquarters office in Washington, D.C., officials reported. Shown here are Herbert L. Sharp, GFDNA secretary - treasurer (left), and Alvin E. Oliver, GFDNA executive vice president, with a handful of checks and membership applications. Sam Rice, Jr., of the Rice Grain Co. in Toledo, Ohio, was chairman of "ME" Day and voluntary workers throughout the U.S. participated. Approximately 400 new members have been added as a result of "ME" Day.

BETWEEN

(Continued from page 1)

ers, it appears that some manufacturers have trimmed their margins to appease customers.

Most manufacturers have found it necessary to advance their feed price lists each week for several weeks. Some reported lower feed prices this week, mainly because of declines in soybean meal and millfeeds, but observers look upon this situation as one of a temporary nature.

Bean meal still rides at a price 40-50% higher than a year ago, animal protein feeds are quoted about a third higher than a year ago and most other ingredient prices stand above year-earlier quotes.

An "Alarming" Example

One of the most "alarming" examples of low end-product prices is in the broiler business. In the Southeast, broiler prices dropped to mostly 13¢—a level that's considered by some as 1½-2¢ below the cost of production. The West and Delmarva also reported low prices, although there was some strength in some places later this week.

The seriousness of the broiler situation is tempered somewhat, in the Southwest at least, by an attitude taken by some of the large integrated operations. One of their spokesmen said: "This time the broiler people are in a better financial position to weather the storm."

From southern California it was reported that feed men found themselves in unusual circumstances when they had to advance feed prices.

It was learned that California feed operations have cautioned their credit managers to be on the alert for changing customer payment policies. They say high feed costs and lower egg and broiler prices have always produced credit problems in the past —"and this time is no exception."

"Fortunately for everyone involved," said an observer of the poultry industry in the West, "poultrymen have been satisfied with net profits these last six months, but now the old menace of overproduction exists again."

Southeasterners have said that most of the people in the broiler business in their region realize they are in a risk trade and are prepared to ride out the troubled period "if it does not take too long."

Reports indicate that the integrated broiler operations always feed as efficiently as possible, so their feed formulas remain relatively constant whatever the price of ingredients. But there are signs of some operations cutting down on placements.

A Californian reports present price factors are definitely discouraging producers from replacing birds sent to market. A representative of a feed manufacturer with birds out on contract in the Southeast also noted that operations are cutting back on replacements.

Midwestern manufacturers were reported to be wondering how long broiler operations could continue to function with such a wide difference between the price of broilers and the price of feed. These same tradesmen feel, however, that broiler prices may have reached the bottom and proteins may have reached the top. It is their hope that the opposing extremes will be narrowed.

In the opinion of some feed men and poultrymen, the over-expansion in broiler and turkey production has occurred because "some operations want to establish a high base in case production quotas are set by the government."

Other Problems

Concern registered by feed men is not confined to broilers. Manufacturers and dealers in the Corn Belt are confronted with the proposition of maintaining a good volume of swine feed sales.

Hog producers aren't happy about the market prices for their animals. Hog prices weakened generally 50¢-$1 cwt. during the last half of April and have since declined further. This has pulled average prices of barrows and gilts at principal eastern Corn Belt markets below $17 for the first time since last October.

Some feed men have reported that hog producers are asking them to mix feeds with a lower protein content than usual because of the high price tags hung on oilseed meals and animal proteins. Also, hog producers have found it necessary to feed out quickly corn which went into the crib last fall at high moisture levels. When the frost left the corn this spring, farmers rushed to get the corn fed out before it spoiled.

This situation, say feed men, has, in some instances, developed a higher proportion of concentrate sales but has cut drastically into finished feed volume.

Sales of feed for both beef and dairy cattle operations are declining now that the pasture season has arrived. And beef producers are inclined to slight their feeding practices because cattle prices have continued their downward trends under the influence of increasing receipts at markets. Recent prices were recorded at lowest level since early November.

Agricultural economists say cattle slaughter is expected to stay high for the next few months, as the larger number of cattle on feed this year is shipped to market. There's a chance, however, that by late summer or early fall prices paid for cattle may move up, if the nation's general economic picture improves and consumer demand for beef increases.

It was rumored in California this week that "eastern" beef may be shipped in large quantities to the Los Angeles area. "Replacing cattle at present price levels seems to appeal only to the real speculators," said an observer. "This condition has disappointed certain feedlot owners, particularly those who expanded facilities to handle additional cattle this season."

Lamb market conditions have been demoralized by prices at principal markets falling to fully $5 below year-ago levels.

Market Uncertainty

Because of the uncertainties which surround ingredient prices, feed men appear to be maintaining supplies on a hand-to-mouth basis. This, said one manufacturer, is partly responsible for the instability of prices. Although prices of major ingredients have held at fairly high levels, they have bounced up and down within limited ranges.

This particular tradesman believes manufacturers are buying only when they have to. Prices dip as mixers operate from stocks, then climb sharply when they return to the market to replenish depleted supplies.

Apparently, feed men are expecting almost anything of the soybean meal market from now until time for harvest of the 1961 bean crop. It's been reported in the trade that there is a widespread belief that farmers will comply with the corn acreage restrictions of the new feed grain program, but will expand their soybean acreage. However, a shortage of soybean seed or bad growing weather could cut yields and offset the intended increase in soybean acreage.

TOP OF THE HOPPER

(Continued from page 2)

has been mentioned frequently as one of the strong trends in recent years, this observer feels that in at least some grain areas, some feed companies may be adversely affected by not getting into this type of thing more extensively.

THE PRESIDENT of an Arkansas firm which is completely integrated in feed milling, poultry production and processing has applied to the Arkansas State Bank Department for permission to establish a new bank. He is Harold Snyder, president of the big Arkansas Valley Industries, Inc., Dardanelle. The state department was asked for permission to establish a new bank at Dardanelle with a starting capital of $150,000. Mr. Snyder is listed as president in the application for the proposed bank. The community of Dardanelle now has one bank, established 20 years ago.

IT HAS FREQUENTLY been said that specialized feed mills producing only a very few types of feed for nearby feeding operations can produce at pretty low costs, particularly in comparison with at least some of the full line plants. A man with a firm which has a new small mill making feed for integrated poultry operations says that total manufacturing costs in this mill—including labor, mill supervision, power, plant depreciations, etc.—are less than $2 per ton.

A CALIFORNIA FEED MAN, who says he wouldn't bet on it but nevertheless believes he's substantially correct, estimates that 80% of the turkeys on feed in California are owned by five companies. Also, he predicts that broiler production in the state will increase considerably under more concentrated feed company ownership of birds—the only way the state can successfully compete with inshipments of broilers from other areas.

AN EXTENSION SPECIALIST in poultry husbandry and marketing, M. E. Jackson of Kansas State, is advising farmers: "Producers who wait to see what happens in the poultry industry will still be waiting many years from now. Those who are interested in expanding see that there is a future in the poultry business. This involves more than just producing eggs. This involves the acceptance of programs in marketing and production. The big change will be a change in attitudes of producers. You must accept the idea that you are needed in a marketing program."

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bulk, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

ALFALFA MEAL

Buffalo: Demand and supply fair; trend steady; $64.10, sacked, Boston, unchanged.

Chicago: Demand fair; trend steady; supply ample; dehydrated, 17% protein, 100,000 units vitamin A $48@49.50.

Kansas City: Demand fair; trend steady to weaker; supply adequate; 17% dehydrated alfalfa, 100,000 A, pellets $44.50@46, reground pellets $45.50@47; 18% dehydrated alfalfa, 125,000 A, pellets $46@48, reground pellets $47@50; 20% dehydrated alfalfa, 150,000 A, pellets $49@56, reground pellets $50@57; dehydrated prices $1@2 down; suncured alfalfa, demand slow, supply ample, 13% pellets $32@33, No. 1 ¼-in. $38, sacked, unchanged.

Los Angeles: Demand of dehydrated good, suncured moderate; trend steady; supply of dehydrated limited, suncured ample; dehydrated meal, 17% protein, 100,000 A $51@52; dehydrated pellet meal, 17% protein, 100,000 A $53@55; suncured meal, 15% protein $43@44; suncured crumbles, 15% protein $45@46; all unchanged.

Memphis: Demand steady; trend easier; supply ample; dehydrated, 17% protein, guaranteed 100,000 units, vitamin A $50, up $4; reground pellets $50.60, unchanged.

Portland: Demand fair; trend mixed; supply ample; 15% suncured $41; 20% protein dehydrated, pelled, meal $47.50.

Ft. Worth: Demand fair for dehydrated, slow for suncured; trend steady; supply sufficient; sacked: dehydrated 17%, 100,000 A $50, truck or rail, down $1; suncured: 13% ¼-in. grind No. 1 $45, truck; 15% fine ground, dry $47, with 2% fat added $49, rail or truck, unchanged.

Boston: Demand fair; trend easier; supply ample; dehydrated, 17% $60, down $1; suncured 13% $46, unchanged.

St. Louis: Demand fair; trend lower; supply limited; dehydrated, 17% protein, 100,000 units vitamin A, pellets, bulk $48, up 50¢.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A pellets $52.50@53.50, unchanged.

Minneapolis: New crop production from South resulting in first price change in quite some time; loss of about $2 during week; 17% dehydrated, 100,000 units vitamin A reground pellets $49, delivered Minneapolis; oiled reground pellets $51.

Denver: Demand fair; trend steady; supply ample; $45.

Seattle: Demand fair; trend easy; supply ample; suncured 15% protein $38, Seattle, down $10 (new crop); dehydrated, 150,000 A units $67, Seattle, down $4 (new crop).

ANIMAL FAT (STABILIZED)

Atlanta: Demand good; trend steady; supply very short; 7⅜@8¢ lb., f.o.b. Alabama and Georgia production points.

Memphis: Demand good; trend steady to slightly lower; supply ample; yellow grease 7⅝¢ lb., prime tallow 7⅞¢ lb., both unchanged.

Chicago: Demand very good; trend higher, up 12¼@12¾¢; supply moderate; tank truck or carlots, fancy bleachable $8.12½ cwt.; yellow grease $7.37½@7.50 cwt.

Kansas City: Demand fair; trend steady; supply available; stabilized prime tallow 7⅝¢ lb., unchanged.

Los Angeles: Demand slow; trend easier; supply adequate; 7¼¢ lb, down ⅝¢.

Ft. Worth: Demand good; trend steady; supply moderate; prime tallow, tank cars 8¢ lb., drums 9½¢ lb., f.o.b. north Texas packing plants with returnable drums, unchanged.

St. Louis: Demand good; trend easy; supply ample; yellow grease 7⅜¢ lb., delivered, tank cars or trucks, ⅛¢ lower.

Boston: Demand light; trend easier; supply ample; tallow 7⅞@8¢ lb., off ⅛¢; yellow grease 7⅝@7⅞¢ lb., off ⅛¢.

St. Paul: Another ¼¢ was added to the bleachable fancy price this week as strong demand was fed by an only adequate supply; the new price May 4 was 7⅞¢ lb., f.o.b. producer's plant.

BARLEY FEED

Baltimore: Demand and supply fair; trend easier, $2 off; $44.50, sacked.

Chicago: Demand light; supply fair; trend easier, down $2; $34, sacked.

Los Angeles: Demand slow; trend steady; supply adequate; $2.47½ cwt.

Boston: Demand light; trend easy; supply adequate; $46, sacked, off $1.

Denver: Demand good; trend strong; supply short; $2.30 sacked, $2.05 bulk.

Seattle: Demand fair; trend steady; supply good; $45, truck lots, unchanged.

BLOOD MEAL

Chicago: Demand excellent; trend $5 higher; supply moderate; 80% protein $137.50, sacked.

Los Angeles: Demand slow; trend steady; supply ample; $5.25 a unit of ammonia, sacked, unchanged.

BONE MEAL (STEAMED)

Buffalo: Demand good; trend steady; supply fair; $105, sacked, unchanged.

Los Angeles: Demand fair; trend steady; supply ample; imported $80.75, 20 ton lots, sacked, unchanged.

Chicago: Demand good; trend $2 higher; supply moderate; $100, sacked.

Boston: Demand and supply steady; trend steady; $105, unchanged.

Ft. Worth: Demand fair; trend steady; supply sufficient; domestic $100, sacked, f.o.b. Ft. Worth, unchanged.

Cincinnati: Demand good; trend steady; supply fair; $100, sacked, Cincinnati, unchanged.

Denver: Demand slow; trend steady; supply ample; $117.50.

Seattle: Demand fair; trend steady; supply good; $92, f.o.b. car Seattle, sacked, unchanged.

BREWERS DRIED GRAINS

Buffalo: Demand fair; trend higher; $44, Boston, up $2.

Los Angeles: Demand good; trend easier; supply limited; $50, down $1.

Boston: Demand fair; trend steady; supply adequate; 26% $43, unchanged.

Chicago: Demand slightly improved; supply moderate; trend upward, $1.50@2 higher; 26% protein $33.

Ft. Worth: Demand slow; trend lower; supply sufficient; 26% protein $50.50, sacked, down $1.40.

St. Louis: Demand fair; trend firm; supply plentiful; 26% protein $34.50, up 50¢.

Cincinnati: Demand poor; trend steady to higher; supply adequate; $41, up $8.

BREWERS DRIED YEAST

Buffalo: Demand fair; trend steady; supply ample; $8.50 cwt., off 25¢.

Chicago: Demand fair; trend steady; supply ample; 9¼@10¢ lb., carlots, sacked; 9⅝@12¼¢ lb., l.c.l.

St. Louis: Demand fair; trend firm; supply ample; 9½@10¢ lb., carlots, sacked; 10½¢ lb., ton lots; 11½¢ lb., less than ton lots.

Boston: Demand, trend and supply steady; 11¢ lb., unchanged.

Los Angeles: Demand good; trend steady; supply limited; 10¢ lb., 5 ton lots; 11¢ lb., 1 ton lots; 12¢ lb., less than ton lots; all sacked and unchanged.

Ft. Worth: Demand slow; trend steady; supply sufficient; 11½¢ lb., 5 ton lots, sacked, unchanged.

Cincinnati: 9@10¢ lb., sacked, unchanged.

Seattle: Demand slow; trend steady; supply ample; $12 cwt., sacked.

CALCIUM CARBONATE

Los Angeles: Demand fair; trend steady; supply adequate; flour $9.85, 20 ton cars; meal $10.20, 20 ton cars; both sacked and unchanged.

Chicago: Demand fair; trend steady; supply ample; fine grind, plain, 100 lb. bags $9.54; bulk, in hopper cars $7.54; bulk in boxcars $8.04; granular grind $1 premium.

Minneapolis: Fine grind, 50 lb. bags $13.75; 100 lb. bags $13; bulk, boxcar $11.50; bulk, hopper $11; coarse grind $1 premium, delivered Minneapolis.

Ft. Worth: Demand normal; trend steady; supply sufficient; $4.50@5, f.o.b. north Texas, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; $7@7.50 cwt.

Denver: Demand fair; trend steady; supply ample; $12.50, carloads.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, sacked.

COCONUT OIL MEAL

Los Angeles: Demand good; trend steady; supply moderate; copra cake $65, May, unchanged.

Portland: Demand fair; supply adequate; trend unchanged; 20% solvent $62.20.

Seattle: Demand fair; trend firm; supply tight; solvent type $70, f.o.b. car Seattle, sacked, unchanged.

CONDENSED FISH SOLUBLES

Los Angeles: Demand good; trend firmer; supply limited; 3¼¢ lb., up ¼¢.

Ft. Worth: Demand fair; trend steady; supply extremely scarce; tank car, West Coast production $4.16 cwt.; dried fish solubles $146.60, unchanged.

Boston: Demand slow; trend easy; supply ample; $37.50, down $2.50.

Denver: Demand and trend steady; supply ample; 3¼¢ lb., West Coast.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are bulk basis, sacked basis $6 more)

Minneapolis: Feed $45.70, meal $78.70.
Atlanta: Feed $49.10, meal $82.10.
Birmingham: Feed $46.90, meal $79.90.
Boston: Feed $50.60, meal $83.60.
Chicago: Feed $39, meal $72.
Cleveland: Feed $47, meal $80.
Denver: Feed $49.30, meal $82.30.
Ft. Worth: Feed $47.80, meal $80.80.
Indianapolis: Feed $44.25, meal $77.25.
Kansas City: Feed $39, meal $72.
Louisville: Feed $45.55, meal $78.55.
New York: Feed $50.20, meal $83.20.
New Orleans: Feed $49, meal $82.
Norfolk: Feed $49.60, meal $82.60.
Philadelphia: Feed $49.80, meal $82.80.
St. Louis: Feed $39, meal $72.

COTTONSEED OIL MEAL

Memphis: Demand fair; trend steady; supply ample; prime 41% protein, old process $61, up $1; new process, 41% protein $61, up $1.

Kansas City: Demand slow; trend steady; supply ample; 41% solvent process $63.80, 41% old process $64, both unchanged.

Portland: Demand good; trend steady to firm; supply adequate; 41% solvent $74.20 @77.20.

Ft. Worth: Demand slow; trend steady to slightly easier; supply adequate; 41% old process $58, f.o.b. mills Ft. Worth; solvent 2% fat added $58, delivered Ft. Worth, first half May; $60, last half May-June-July, unchanged to $1 lower; pellets $2 additional; hulls $14@15, unchanged.

Atlanta: Demand good; trend stronger; supply limited; 41% $65 Georgia, $62 Alabama, $61 Mississippi and Tennessee producing mills.

Buffalo: Demand fair to good; trend higher; supply fair; $82.25, sacked, Boston, up $2.

Chicago: Demand fair; trend firm; supply adequate; Memphis basis: hydraulic $61.50, solvent $61.50.

Los Angeles: Demand improved; trend firmer; supply adequate; $60, up $3.

St. Louis: Demand good; trend firm; supply limited; solvent $61, unchanged.

Cincinnati: Demand good; trend steady; supply adequate; $67.50, unchanged.

Denver: Demand good; trend strong; supply fair; $63.50, delivered.

Seattle: Demand fair; trend firm; supply limited; 41% expeller $74, f.o.b. car Seattle, unchanged.

CURACAO PHOSPHATE

New York: Minimum 14% phosphorus $43.50 sacked, $40.50 bulk, f.o.b. New Orleans, Jacksonville and Philadelphia.

DEFLUORINATED PHOSPHATE

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload $61.25, sacked, 100 lb. multiwall bags, bulk $58.25; truck load $62, sacked, in 100 lb. multiwall bags, bulk $59, f.o.b. Coronet, Fla.

Tupelo, Miss.: Minimum phosphorus 14%, minimum calcium 28%, maximum fluorine .14% $52, f.o.b. Tupelo in 100 lb. multiwall bags, $49 bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum 36%, maximum fluorine .18% $66 (or $3.67 per unit of P), f.o.b. Wales in 100 lb. multiwall bags, $3 less in bulk.

Butte, Mont.: Minimum phosphorus 18%, minimum calcium 32%, maximum calcium 36%, maximum fluorine .18% $81 (or $4.50 per unit of P), f.o.b. Butte, 100 lb. multiwall bags; bulk $78; truck lots of less than 10 tons $10 more, bagged or bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $69.35 net ton, f.o.b. Houston, 100 lb. multiwall bags; $66.35 bulk ($3.65 per unit of P).

Ft. Worth: Demand fair; trend steady; supply sufficient; minimum 18½% phosphorus, maximum 31% calcium, maximum .18% fluorine $76.85, sacked, unchanged.

Cincinnati: 18% phosphorus, carlots $74.30, ton lots $54.30; 14% phosphorus, carlots $62.50, ton lots $72.50, f.o.b. Cincinnati.

Seattle: Demand and supply good; trend steady; $93.50, ex-dock Seattle, sacked, unchanged.

DICALCIUM PHOSPHATE

Trenton, Mich.: 18½% P $83, bulk, boxcar/hopper car; $86, bagged, in less than carload lots; 21% P, $94.05, bulk, boxcar/hopper car; $97.65, bagged, in carloads or truck loads; $107.85, bagged, less than carload; all prices f.o.b. Trenton, freight equalized with nearest producing point.

Chicago: Bulk, carlots and truck loads, 18½% phosphate $78 and 21% phosphate $89; packed in 100 lb. papers, 10 tons or more, 18½% phosphate $81 and 21% $92; lesser quantities, 18½% phosphate $91 and 21% $102; above prices per ton, f.o.b. Chicago Heights, Ill., or Nashville, Tenn.

Bonnie, Fla.: Minimum phosphorus 18½%, granular, $81 (or $4.38 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $10 more. Western slope prices, for delivery at established railroad stations and by truck at regular feed mixing plants: California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho, $107.15; bulk carloads $3 less; truck loads less than 10 tons, $10 more.

Columbia, Tenn.: Minimum phosphorus 18.5%, minimum calcium 24% $81, f.o.b. Columbia, in 100 lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Texas City, Texas: Minimum phosphorus 18.5%, minimum calcium 20%, maximum calcium 23%, maximum fluorine .12%; carload and truck load $76.50, sacked in 100 lb. multiwall bags, bulk $72.50, f.o.b. Texas City.

Los Angeles: Demand fair; trend steady; supply adequate; 18½% phosphorus $95.10, sacked.

Buffalo: Demand good; trend steady; supply adequate; $82.93, sacked, f.o.b. warehouse, Buffalo, unchanged.

Ft. Worth: Demand fair; trend steady; supply adequate; $81.50, sacked, unchanged.

Cincinnati: 18½% phosphorus $88.80, bagged in carloads; $98.70, bagged in ton lots, f.o.b. Cincinnati; $81, f.o.b. producing points.

Denver: Demand good; trend steady; supply ample; $88.50.

Seattle: Demand good; trend steady; supply limited; $91, ex-dock Seattle, sacked, unchanged.

DISTILLERS DRIED GRAINS

Louisville: Demand fair; trend weak; supply good; bourbon grains, dark $52, sacked and packed f.o.b. Louisville, bulk $5 less; light feed $1@3 less; solubles $73, no change from last week, price expected to hold for May.

Buffalo: Demand fair to good; trend higher; supply fair to poor; $59, Boston, up $2.50.

Boston: Demand cautious; trend easier; supply ample; light $56, down $1; dark $57, down $1.

Cincinnati: Demand fair; trend steady; supply adequate; $51@52, down $1.

Seattle: Demand good; trend firm; none available; $71, delivered truck lots, sacked, unchanged.

DRIED BEET PULP

Los Angeles: Demand good; trend steady; supply moderate; $44.90@45.20, May-July, up 0@20¢.

Portland: Demand good; supply ample; trend unchanged; $47.58.

Atlanta: Demand fair; trend steady; supply limited; $63.50, sacked, delivered.

Buffalo: Demand fair; trend higher; supply fair to poor; $66, sacked, Boston, up $1.50.

Boston: Demand and supply steady; trend fairly steady; $64, sacked, unchanged.

Denver: Demand light; trend steady; supply scarce; $60.

Seattle: Demand good; trend steady; supply ample; $49, delivered carlots, sacked, unchanged.

DRIED BUTTERMILK

Buffalo: Demand poor; trend steady; supply ample; $10.55 cwt., unchanged.

Chicago: Demand fair; trend higher, up 25¢; supply light; medium acid $10@10.50 cwt., sweet cream $10@10.50 cwt., both sacked.

Los Angeles: Demand fair; trend steady; supply ample; 13¾@14¢ lb., sacked, unchanged.

Boston: Demand quiet; trend steady; supply light; 14¢ lb., unchanged.

DRIED CITRUS PULP

Los Angeles: Demand steady; supply light; orange pulp $43, lemon pulp $43, both nominal and unchanged.

Buffalo: Demand and supply fair; trend steady; $35, sacked, f.o.b. Florida, unchanged.

Atlanta: Demand fair; trend weak; supply good; pulp $32.50@35, meal $30@32.50, both sacked, f.o.b. Florida processing plants.

Boston: Demand steady; trend fairly firm; supply adequate; $54.20, sacked, up 20¢.

DRIED SKIM MILK

Buffalo: Demand fair; trend steady; supply ample; spray $11.45 cwt., unchanged.

Boston: Demand good; trend firm; supply spotty; 13½¢ lb., unchanged.

Chicago: Demand slightly better; trend steady; supply light; $10.50@10.85 cwt., sacked.

Los Angeles: Demand slow; trend steady; supply adequate; 14¢ lb., less than ton lots; 13¾¢ lb., ton lots; both sacked and unchanged.

Ft. Worth: Demand fair; trend steady; supply limited; $15.65 cwt., sacked, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; 12@13¢ lb., sacked, unchanged.

Minneapolis: Firm at $12 cwt.

DRIED WHEY

Los Angeles: Demand fair; trend steady; supply adequate; $5.16 cwt., carloads; $5.35 cwt., l.c.l.; both sacked and unchanged.

Chicago: Demand fair; trend upward; supply ample; $5 cwt., sacked.

Seattle: Demand steady; trend easy; supply good; $5.35 cwt., ex-warehouse, l.c.l., unchanged.

Minneapolis: Supply ample; demand good; price remains at $5.15 cwt.

Kansas City: Demand fair; trend steady; supply ample; $5 cwt., sacked, unchanged.

Ft. Worth: Demand fair; trend steady; supply adequate; standard $5 cwt., sacked, truck or rail, delivered Ft. Worth; ton lots $5.25 cwt., f.o.b. warehouse Ft. Worth, unchanged.

Boston: Demand and supply steady; trend steady; 5¼¢ lb., unchanged.

Denver: Demand good; trend steady; supply ample; $5.25 cwt.

Cincinnati: Demand fair; trend steady; supply adequate; $5.75 cwt., sacked, unchanged.

FEATHER MEAL (HYDROLYZED)

Atlanta: Demand good; trend steady; supply very limited; $80, f.o.b. Georgia and Alabama processing plants.

Los Angeles: None available; $1 a unit protein, nominal, sacked.

Ft. Worth: Demand moderate; trend higher; supply limited; 85% protein $85@$87.50, up $10.

Boston: Demand fair; trend unsettled; supply adequate; $76, sacked, unchanged.

FISH MEAL

Ft. Worth: Demand good; trend strong; offerings extremely light for immediate; sacked: 65% protein Peruvian $124, last half May, up $10; new crop menhaden $123, subject to catch, May-June, up $5.

Boston: Demand good; trend firmer; supply fair; $105@110, up $5.

Portland: Demand fair; trend higher; supply ample; $1.85 a protein unit, sacked.

Los Angeles: Demand good; trend firmer; supply light; local production, 60% protein $1.90@1.95 a unit, sacked, up 5@10¢.

Minneapolis: Tight supplies on the West Coast, poor Norwegian production, improved demand and other factors put a charge under fish meal prices this week; 60% West Coast blended advanced $9 to $144, sacked, delivered, while 70% Canadian herring climbed 17½¢ during the week to $1.75 a unit, f.o.b. West Coast, subject to production.

Seattle: Demand good; trend firm; supply ample; $1.80 a unit protein, f.o.b. truck Vancouver, B.C. (Canadian production), unchanged.

Denver: Demand good; trend steady; supply short; $1.85 a protein unit, West Coast.

Buffalo: Demand good; trend steady; supply very light; 60% protein menhaden $120, up $5.

Atlanta: Demand good; trend steady;

supply very short; 60% menhaden $108@110, sacked, f.o.b. Atlantic and Gulf ports subject to catch.

Chicago: No quotations on menhaden available; all apparently withdrawn and demand very aggressive with no offerings to fill it; Canadian herring $1.70 a unit of protein.

Cincinnati: Demand fair; trend steady; supply adequate; $108.10, unchanged.

HOMINY FEED

Los Angeles: Demand good; trend firmer; supply adequate; meal $50, up $3; pellets $52, up $3.

Seattle: Demand good; trend steady; supply limited; $53, delivered carlots, sacked, up $1.

Buffalo: Demand fair; trend steady to lower; supply adequate; $47.50, Boston, off 50¢.

Chicago: Demand good; trend firm; supply fair; $38.

Kansas City: Demand fair; trend steady; supply adequate; white or yellow $33@33.50, unchanged.

Boston: Demand good; trend steady to firm; supply steady; $47, up $1.

St. Louis: Demand fair; trend firm; supply ample; yellow $38, down 50¢.

Cincinnati: Demand poor; trend steady; supply adequate; $40.50, down $1.10.

LINSEED OIL MEAL

Minneapolis: The late price break in soybean meal tended to hold linseed meal at a steady level; linseed had been heading upward; 32% solvent quoted at $56.50, same as week before.

Denver: Demand fair; trend steady; supply ample; $70.

Seattle: Demand fair; trend steady; supply good; 34% protein (Montana) $85, delivered carloads, sacked, unchanged.

Chicago: Demand good; trend firm to $1 lower; supply fair; Minneapolis basis: solvent $56.50, expeller $60.50.

Buffalo: Demand and supply fair; trend steady; $56.50, Minneapolis, unchanged.

Ft. Worth: Demand slow; trend steady; supply sufficient; 34% protein, extracted $71.70 first half May, $72.20 last half May, $1@1.50 higher.

Portland: Demand slow; trend steady; supply ample; 34% solvent $85, sacked.

Los Angeles: Demand moderate; trend steady; supply adequate; local production, 31% protein $71, unchanged.

Boston: Demand and supply fair; trend steady; 32% $77.20, up 20¢.

Cincinnati: Demand poor; trend higher; supply adequate; new process $57.50, old process $61.50, Minneapolis, up $1@2.

MEAT AND BONE MEAL

Los Angeles: Demand better; trend firmer; supply small; 50% protein $1.95 a unit, up $6.

Memphis: Demand good; trend steady to up; supply ample; 50% protein $107, without billing, up $10; 50% protein $110, with rail transit, up $8.

St. Paul: Stability entered market this week as sacked price leveled off at $109@112.

Denver: Demand good; trend steady; supply scarce; $98.

Seattle: Demand fair; trend steady; supply limited; $2.05 a unit protein, ex-processing plant, sacked, unchanged.

Buffalo: Demand good; trend steady; supply very scarce; 50% meat scraps $105, up $5.

Chicago: Demand good; trend upward, $5 higher; supply moderate; 50% protein $102.50, sacked.

Ft. Worth: Demand good; trend strong; limited offerings; meat and bone, 50% $102.50 bulk, $105 sacked, f.o.b. Ft. Worth, up $7.50.

Boston: Demand active; trend firm; supply tight; $1.60 a protein unit, up 10¢; converted 50% $92.50, up $5.

Kansas City: Demand good; trend firm; supply tight; 50% $102.50, up $2.50.

Portland: Demand fair; trend lower; supply adequate; 50% $100@102.50, sacked.

St. Louis: Demand good; trend firm; supply limited; 50% $105, up $10.

Cincinnati: Demand excellent; supply short; trend strong; 50% meat and bone scraps $102.50, up $10.

MEXICAN PHOSPHATE

Brownsville, Texas: Mexican natural ground rock, 13% phosphorus $39 sacked, bulk $2 less; 14% $43 sacked, bulk $2 less.

MILLFEED

Minneapolis: A dull market was revived

(Turn to QUOTES, page 182)

Major Markets Roundup

Animal Proteins Strong in Mixed Market

Animal protein feeds stood in the ingredient market spotlight this week. Price advances, as indicated by the U.S. Department of Agriculture tabulation below, were highly significant for meat and bone meal, tankage and fish meal. Influencing factors were reported to be only adequate or even tight supplies and good demand, partly from the high price level held by oilseed meals.

Although animal proteins advanced sharply, USDA reported (see table) that for the week ended May 2 the index of weighted prices for all feedstuffs showed a slight decline compared with a week earlier.

Greatly responsible for this was a dip of from $1 to $4 nationally in soybean meal prices, a sharp decline in millfeeds and lower marks for other ingredients, including distillers dried grains and alfalfa meal.

Feeds: Average Bulk Prices and Index of Weighted Prices*
(Dollars per ton)

	May 2, 1961	April 25, 1961	Change from previous week
OILSEED MEALS			
Prices at prin. mkts.:			
Soybean meal	84.80	86.05	—1.25
Cottonseed meal	62.90	61.55	+1.35
Linseed meal	64.85	64.35	+ .50
Copra cake or meal	58.50	58.50	...
Peanut meal	61.25	58.00	+3.25
Index	100.5	101.1	— .6
ANIMAL PROTEIN FEEDS			
Prices at prin. mkts.:			
Meat meal	100.55	93.05	+7.50
Tankage	101.65	93.65	+8.00
Fish meal	110.75	103.50	+7.25
Index	88.5	82.1	+6.4
GRAIN HIGH-PROTEIN FEEDS			
Prices at prin. mkts.:			
Gluten feed and meal	51.35	50.55	+ .80
Dist. dried grains	52.20	54.70	—2.50
Brewers dried grains	38.10	38.00	+ .10
Index	77.8	77.6	+ .2
WHEAT MILLFEEDS			
Prices at prin. mkts.:			
Bran	40.65	43.35	—2.70
Midds. and shorts	41.50	44.00	—2.50
Index	74.2	78.9	—4.7
OTHER MILLFEEDS:			
Prices at prin. mkts.:			
Hominy feed	40.60	40.60	...
Rice bran	29.00	30.00	—1.00
Index	62.3	62.6	— .3
ALFALFA MEAL			
Prices at prin. mkts.	49.95	50.90	— .95
Index	96.2	98.0	—1.8
MOLASSES, FEEDING			
Prices at prin. mkts.	27.76	27.76	...
Index	82.6	82.6	...
ALL FEEDSTUFFS			
Index	89.6	89.9	— .3
FEED GRAINS			
Prices at prin. mkts.:			
Corn	39.30	39.00	+ .30
Oats	44.40	43.80	+ .60
Barley	41.80	41.90	— .10
Grain sorghums	39.00	38.30	+ .70
Index	64.0	63.6	+ .4

*Base period of index is 1947-49.
Source: USDA.

East

BOSTON: Millfeeds were highly irregular in the local market this week. Feeds that have enjoyed a good rise in recent weeks were meeting with sales resistance and as a result some were off from recent highs.

Wide price swingers during the week included fish meal, up $5, and soybean meal which went $2 higher. Meat and bone meal was also enjoying a substantial inquiry and pushed up about $5.

Lower were alfalfa meal, animal fats, distillers grains and oat products.

Starter rations were coming in for considerable attention with the inquiry much more constant than recently.

Midwest

CINCINNATI: During the past week, due to the fluctuation in the price of soybean oil meal, and the resultant strength in other vegetable proteins, the demand for meat by-products increased considerably.

Meat scraps and tankage jumped $10 from the previous week's prices. Also advancing were linseed oil meal, up $1 to $2, and brewers dried grains, up $8.

On the downside were millfeeds, $3; hominy, $1.10; distillers, $1, and soybean oil meal, $3.50 to $4, after an advancement of $4 the previous week.

Despite the sliding scale of ingredient prices, demand for formula feeds was steady with tonnages considered normal for this time of the year.

CHICAGO: Soybean meal prices, both for the cash article and the futures, lost a fair amount of ground during the past week.

In the spot department, 44% protein, unrestricted billing slipped $2.50 ton, and ETL dropped a like amount. Losses of the same size have been sustained on 50% protein content meal.

Setbacks in the meal futures at this market have matched those in the cash department very closely. Marked weakness was noted at midweek with May meal closing at $71 which is well down from the season's high tick of $76. On the other hand, it might be pointed out that current levels are very much farther away from the season's lows. In the case of the May delivery, current level is $23 ton over its season's low tick.

Volume of futures trade in soybean meal at Chicago is holding up very well with better than 5,500 lots of 100 tons each traded in during the past week. Deliveries on open May meal contracts have been liberal. However, as of the close of business May 2, there were still 811 lots unliquidated.

ST. LOUIS: Most feed ingredient prices moved inside a narrow range, but there were a few important exceptions. Millfeeds eased about $4, soybean meal $3-4, and meat and bone meal advanced $10.

Brokers attributed the decline in millfeeds to the fact that buyers were fairly well covered and in a

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position to work out of inventories. In addition, prices had moved to a level where millfeeds were out of line with some other ingredients.

Dealers said that there was a good inquiry for soybean meal but the current price encouraged the use of substitutes. The premium for 50% meal slipped $1, reflecting the less urgent demand from broiler areas. Supplies were readily available, with some processors reported to be pressing for shipping directions on old balances.

In meat and bone meal, light production of the unground material combined with heavy demand was responsible for pushing prices up again. Cattle kills are light. Observers say farmers are delaying marketing and using cheap corn to feed their stock to heavier weights.

MINNEAPOLIS-ST. PAUL: Soybean meal prices declined about $2.50 in this market this week, but many observers said they expected the drop to be only temporary.

Millfeeds declined sharply during the week, but regained some of the loss at week's end as it appeared some buyers had returned to the market because of expiring inventories. Sacked midds. stood at $39, bran at $40 and red dog at $44.

In the strongest position of all ingredients in this area were meat and bone meal, tankage and even fish meal, which has had a hard time recovering from depressed levels. Fish meal advanced as much as $9 ton.

Alfalfa meal recorded its first price change in many weeks. The alteration was downward, a drop of about $2.

Linseed meal activity was short and prices held about even with the week before.

Southwest

KANSAS CITY: The general tone of most ingredients this week was on the lower side and there were very few exceptions. One notable exception was fish meal which bounded up about $10 per ton due to an extremely scarce immediate supply situation. Even at the higher prices there was still an urgent demand for spot deliveries.

The cottonseed market was nominally unchanged for the week with demand only fair. Soybean meal was off $3@5 for the week and trading was limited. Most buying was on a hand-to-mouth basis. It is felt that most mixers have a considerable portion of their May needs still to buy.

Millfeeds were heavy and pushed into lower price grounds. There was no particular improvement in the flour grind but mixers were hesitant buyers due to slower mixed feed business.

New crop alfalfa meal prices were stronger for spot price as the wet weather held up the new production. Old crop supplies are pretty well depleted but this situation should be corrected by a few days of sunshine.

FORT WORTH: The market on feed ingredients was marked by a wide swing in prices last week, with the animal proteins scarce and leading the advance. Digester tankage was $12.50 higher and meat and bone meal $7.50 higher. Feather meal and poultry by-products were extremely scarce and $10-12 higher. Fish meal was almost unobtainable for nearby shipment and quotations up $5 to $10. Rice bran was up $1, and molasses up ½¢ per gallon, due to Cuban situation.

On the down side was millfeed at $3-4.50 lower and in slow demand. Soybean meal was also about $4 lower than at the same time the previous week, and cottonseed meal was unchanged to $1 down. Dehydrated alfalfa meal was also off another $1.

Most other ingredients were unchanged with the exception of grains, which were higher; sorghums up 6¢ cwt., corn 1½¢ bu. and oats 2½¢ bu.

South

MEMPHIS: Prices of ingredients wove an irregular pattern in Memphis the past week, although a majority showed upward movement.

A little scarce in Memphis production, soybean oil meal advanced on the cash market, although business was termed only fair.

Cottonseed oil meal also rose, mainly on a technical basis, in view of the much higher price of soybean oil meal. A tendency continues for switching from soybean oil meal into cottonseed oil meal in the manufacture of dairy and beef cattle feed, it was reported.

Just getting into new crop production, alfalfa meal is slated for an easier trend price-wise. The demand was fairly steady over the week.

Millfeeds, pointing up a tapering off of dairy and cattle feed, declined, and the trend is for still lower prices.

Oilseed meal futures prices moved downward on the Memphis Board of Trade, despite advances at the close of the period. This was partially attributed to the only fair demand for the cash article.

Soybean oil meal gained the final two days of the period as soybean futures showed strength. Still, these were insufficient to wipe out previous losses.

Eastern Trunk Line soybean oil meal closed May 2 50@75¢ ton lower than on April 25. Unrestricted soybean oil meal closed 10¢@$2.25 lower. Bulk solvent cottonseed oil meal closed unchanged to 50¢ lower.

LOUISVILLE, KY.: Reports indicate that prices as established in late April on distillers dried grains will hold through May. So far, demand has been sufficient for high protein mixer materials to keep the market on an even keel. Production has been reasonably good, despite the fact that Schenley, one of the Big Four distillers, has most of its plants down presently.

Production of distillers feed products has been good and demand very fair. But production will ease off materially in late May and June and continue during the hot weather months, when lack of cold water, necessary in distillation, will close down most distilleries.

Prices apparently good through April indicate dark grains, bourbon, sacked and packed, f.o.b. Louisville, at around $52 ton; light grains $1-3 ton less, on a sacked and packed basis, and solubles remaining at $73.

West

SEATTLE: After advancing wildly for the past month, soybean oilmeal remained virtually unchanged this past week. The quote of $98.70 for 44% meal was the same as last week. Cottonseed meal also halted its upward trend.

Herring meal and meat meal prices remained the same as the previous week, fish meal at $1.80 per unit of protein, Vancouver, B.C., and meat meal offered at $2.05 per unit.

Linseed oil meal and copra meal were unchanged, too, being quoted at $85 ton and $69 ton, respectively.

PORTLAND: Pacific Northwest feed ingredient listings followed a mixed market trend for the second consecutive week.

Most trade sources considered trading as being seasonally dependable, but purchases by most mixers were generally maintained on a spot or nearby basis as a reflection of the high value of most important items.

Soybean prices were pressured $1 to $2.50 ton lower from last week's close while cottonseed meal quotes finished as much as $3 higher. Other oilseed meals were unchanged at the close.

Animal protein feed prices appeared irregular with meat meal unchanged to $2.50 a ton lower at the inside of the range. Fish meal listings gained 5¢ a protein unit during the week.

Wheat millfeed values were unchanged during a generally slow trade, while alfalfa meal prices were mixed. Dehydrated offerings declined $1 ton while sun-cured kinds held mostly unchanged.

Principal feed grains followed a firm to stronger trend. Milo quotes closed 50-75¢ ton higher. Corn gained 25-50¢ and barley gained 50¢.

Other Reports

FISH MEAL: U.S. production of fish meal and scrap during the first two months of 1961 was down 13% from a year earlier at 4,300 tons, according to a report from the U.S. Department of the Interior.

February production of just over 2,000 tons was down 1% from a year earlier. The 1,300 tons of tuna and mackerel meal, which accounted for 63% of the month's total meal production, was 136 tons below the same month a year earlier, the report noted.

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QUOTES

(Continued from page 181)

somewhat at week's end when it was apparent some buyers' inventories had run out, but prices still remained under marks of a week earlier; sacked middlings were down $3.50 to $39, bulk $5 less; sacked bran also slipped $3.50 to $50, bulk $5 less; red dog's sacked price of $44 in jutes was down $2 from a week earlier.

Kansas City: Demand slow; trend easy; supply ample; sacked bran $37.50@38, down $3.50; sacked shorts $37.50@38, down $3.50; bulk bran $29@29.50, down $5.50; bulk shorts $30@30.50, down $5.50; bulk middlings $30@30.50, down $5.50.

Ft. Worth: Demand poor; trend lower; supply sufficient; bran, bulk $40, burlaps $46; gray shorts, bulk $40.50, burlaps $46.50; bulk middlings $40.50, delivered Texas commoin points; $3 down on bran, $4.50 down on bulk shorts, $3 down on sacked shorts, $4 down on middlings.

Chicago: Demand slow; trend sharply lower, off $1.50@5; supply ample; standard bran $35.50, standard midds. $36, red dog $42.

St. Louis: Demand slack; trend weak; supply ample; sacked bran and shorts $42.50, $3.50 lower; bulk bran $35, middlings $36, $4 lower.

Cincinnati: Demand poor; trend lower; supply adequate; bran $44, middlings $45, both down $3.

Buffalo: Demand fair; trend lower; supply good; middlings $40, f.o.b. Buffalo, off $5; bran $38, down $5; red dog $47.50, down $2.50.

Boston: Demand fair; trend easier; supply ample; bran $49.50, off $2; middlings $50.50, off $2.25.

Memphis: Demand fair; trend lower; supply ample; wheat bran $38.80, down $2.70; gray shorts $39.80, down $4; standard midds. $39.80, down $3.

Seattle: Demand fair; trend easy; supply ample; $38, delivered common transit points, carlots, down $1.

Portland: Demand slow; supply adequate; trend unchanged; $37@38.

Denver: Demand and trend steady; supply limited; shorts $37.50@38.25, bran $37.50@38.25, millrun $38.25.

Los Angeles: Standard millrun $45, up $1, demand steady, trend firmer, supply light; red bran $49@50, down $3.50, demand slow, trend easier, supply ample.

MOLASSES

Boston: Demand and supply steady; trend firm; 16¼¢ gal. in tank cars, unchanged.

Memphis: Demand slow to fair; trend up to steady; supply ample; blackstrap 14@14¼¢ gal., tank car, f.o.b. New Orleans, up ⅛¢; $31.85 ton, delivered Memphis, truck, up 85¢.

Minneapolis: Local market steady at these prices; blackstrap $35, tank truck, delivered; beet $31, blend $33.

Seattle: Demand and supply good; trend firm; $25.75, f.o.b. Seattle, tank truck lots, unchanged.

Denver: Demand fair; trend steady; supply ample; $33.60, tank car.

Buffalo: Demand good; trend steady; supply good; 16½¢ gal., f.o.b. Albany, unchanged.

Atlanta: Demand good; trend steady; supply limited; citrus $20@22, f.o.b. Florida processing plants.

Kansas City: Demand fair; trend firm; supply available; blackstrap 14½¢ gal., f.o.b. New Orleans, up ½¢.

Los Angeles: Demand good; trend steady; supply limited; $25.50, f.o.b. tank cars; $25.75, f.o.b. tank trucks; both unchanged.

Ft. Worth: Demand fair; trend higher; supply sufficient; blackstrap 14¾¢ gal., f.o.b. Houston; truck $31.92, delivered Ft. Worth, seller's market price on date of shipment, up ½¢ gal.

St. Louis: Demand fair; trend firm; supply adequate; 14¼¢ gal., tank cars, New Orleans, ¼¢ up.

Cincinnati: Demand fair; trend steady; supply adequate; 14¼¢ gal., New Orleans, unchanged.

OAT PRODUCTS

Buffalo: Demand and supply fair; trend steady; $26.75, sacked, Boston, up 25¢.

Minneapolis: Higher oat prices and good demand advanced most products 50¢@$1 compared with a week ago; sacked feeding rolled up $1 to $77; sacked feeding oatmeal up $1 to $63.50; sacked pulverized up $1 to $42.50; sacked crimped up 50¢ to $66, and sacked oat feed steady at $20.

Chicago: Demand and supply fair; trend steady; reground oat feed $12; No. 1 fine ground feeding oatmeal $66; feeding rolled oats $70.

Ft. Worth: Demand slow; trend steady; supply sufficient; 10% protein oat millfeed $41.80, unchanged; reground $21.30, sacked, unchanged.

Kansas City: Demand good; trend stronger; supply adequate; oat mill by-product $14.50@15, sacked, unchanged; feeding rolled oats $69@71, sacked, up $1@2.

Boston: Demand fair; trend weak; supply adequate; white pulverized, sacked $52, down $1; reground oat feed $21, off $1.

St. Louis: Demand fair; trend steady; supply plentiful; white pulverized $42, unchanged; reground oat feed $13.50, up 50¢.

Cincinnati: Demand poor; trend steady; supply adequate; $44@50, unchanged.

PEANUT OIL MEAL

Atlanta: Demand good; trend stronger; supply very limited; 45% $61@62 for solvent process, f.o.b. Alabama producing mills.

Los Angeles: Demand steady; trend unchanged; supply adequate; $80.50, sacked, unchanged.

POULTRY BY-PRODUCTS

Los Angeles: Demand good; trend firmer; supply limited; $1.75 a unit of protein, sacked, up 5¢.

Memphis: Demand very good; trend steady to up; supply inadequate; 55% meal $110, sacked, with billing, up $7.

Atlanta: Demand good; trend steady; supply short; meat meal $95, f.o.b. Alabama and Georgia processing plants.

Ft. Worth: Demand fair; trend steady; supply very scarce; $105, nominal, sacked, f.o.b. Texas plants, up $12.50.

Boston: Demand and supply steady; trend steady; $85, sacked, unchanged.

RICE BY-PRODUCTS

Memphis: Demand slow; trend steady; supply ample; bran $29, f.o.b. Arkansas points, unchanged.

Los Angeles: Demand slow; trend steady; supply limited; California production, high fat content, bran $50, sacked, unchanged.

Atlanta: Demand fair; trend steady; supply limited; bran $42, sacked, delivered.

Buffalo: Demand fair; trend steady; supply ample; $51.60, Boston, up 50¢.

Ft. Worth: Demand fair; trend steady; supply scarce; rice bran $34@35, f.o.b. south Texas rice mills, sacked, up $1; hulls $5, sacked, unchanged.

SCREENINGS

Chicago: Demand quiet; trend steady; ground grain $31.50, Canadian $26, sacked.

Los Angeles: Demand slow; trend steady;

supply limited; ground barley $35, sacked, unchanged.

Minneapolis: Demand slow; supplies ample; Canadian down another $1 to $13; domestic ranges unchanged at $17@18 for lights, $10@18 for mediums and $18@26 for heavies; 15% flax screenings steady at $36.

Buffalo: Demand and supply fair; trend steady; ground, sacked $29, New York, lake and rail, unchanged; bulk, unground $24, New York, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; unground grain screenings $15@16, Cincinnati, unchanged.

SOFT PHOSPHATE
(Sacked, delivered)

Atlanta: $20.65.
Buffalo: $25.50.
Chicago: $24.96.
Cincinnati: $23.64.
Des Moines: $25.42.
Kansas City: $25.07.
Memphis: $22.28.
Minneapolis: $26.12.
Philadelphia: $24.51.
St. Louis: $24.32.

SOYBEAN OIL MEAL

Minneapolis: A loss of $2.50 was generally regarded by the trade as temporary; most look for meal to rebound to higher ground; 44% was quoted at $68.50, Decatur, May 4, while 50% returned to the two-week-earlier price of $76.50.

Seattle: Demand fair; trend firm; supply ample; $98.20, delivered carlots, unchanged.

Memphis: Demand fair; trend steady; supply ample; prime 44% solvent $76.50, f.o.b. Memphis, down $3.50.

Atlanta: Demand good; trend steady; supply fair; 44% $85, delivered.

Buffalo: Demand fair; trend lower; supply adequate; 44% $72.50, Decatur, off $3.50.

Los Angeles: Demand slow; trend easier; supply increased; $97.10@97.60, down $2@2.50.

Chicago: Trend easier, down $2.50; Decatur basis: 44% protein, unrestricted billing $75.50 and E.T.L. $72.50; 50% protein, unrestricted $85.50 and E.T.L. $82.50.

Ft. Worth: Demand fair; trend steady on decline; supply sufficient; 44% $83.50 May, down $4, $85.50 June; 50% $93.50 May, down $4, $95.50 June.

Kansas City: Demand fair; trend steady to easy; supply adequate; 44% solvent process $72.50@73, Decatur, down $3.

St. Louis: Demand good; trend firm; supply ample; 44% $75, down $3; 50% $84, down $4, Decatur basis.

Cincinnati: Demand poor; trend unsettled; supply adequate; $74.50@76, Decatur, down $3.50@4.

TANKAGE

St. Paul: With supplies tight and demand slow, the price leveled off May 4 at $105@110, sacked, the same as a week earlier.

Chicago: Demand strong; trend $5 higher; supply light; 60% protein $105, sacked.

Kansas City: Demand good; trend firm; supply tight; 60% digester $102.50, up $2.50.

Ft. Worth: Demand good; trend strong; supply very scarce; 60% digester $110, sacked, Ft. Worth, up $12.50.

Cincinnati: Demand good; trend strong; supply short; 60% digester $105, Cincinnati, up $10.

UREA FEED COMPOUND

Cincinnati: Minimum 42% nitrogen, 262% protein equivalent, carloads or truck loads $100, delivered, bagged; less than carloads or truck loads $113.

Lima, Ohio: Minimum 42% nitrogen, 262% protein equivalent $95, f.o.b. bagged.

Woodstock, Tenn.: Minimum 42% nitrogen, 262% protein equivalent; $100, bagged, f.o.b., freight equalized with nearest producing plant; bulk $96.

Pryor, Okla.: Minimum 42% nitrogen, 262% protein equivalent; $100, f.o.b. bagged; $96, bulk cars or trucks, freight equalized with nearest producing point.

Belle, W. Va.: Minimum 42% nitrogen, 262% protein equivalent; $100, f.o.b. bagged; $96, bulk cars or trucks, freight equalized with nearest producing point.

LaPlatte, Neb., and South Point, Ohio: Minimum 42% nitrogen, 262% protein equivalent, $100 ton, f.o.b. bagged; $96 ton, bulk, cars or trucks, freight equalized with nearest producing point.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Los Angeles: Demand slow; trend steady; supply adequate; 7¾¢ lb., unchanged.

Ft. Worth: Demand excellent; trend steady; supply limited; 7¾¢ lb., f.o.b. north central Texas, unchanged.

NEWTON

(Continued from page 1)

Ingredients will be received by both rail and truck. Construction is expected to be completed in the fall of 1962.

Newton's present mill is located two miles from grain and ingredient storage facilities. "A modern mill located on the railroad and adjacent to our grain elevators will greatly improve our production efficiency," said Mr. Newton. "Our desire to better serve our customers plus confidence in the future of the Delmarva poultry industry have prompted us to undertake this construction program," he added.

The Newton company has been manufacturing feed for Delmarva poultrymen since 1916. In addition to a feed department, the company also operates a chick hatchery, a farm equipment department, an appliance department and the industrial department.

DR. SALSBURY'S POULTRY SCHOOL—Fourteen broilermen from Delmarva attended a recent poultry short course at Dr. Salsbury's Laboratories, Charles City, Iowa. Shown with Dr. Haskell E. Willingham (with chickens), Dr. Salsbury's education manager, are, from left: Lloyd G. Daisey, Millsboro, Del.; Clayton S. Davidson, Dagsboro, Del.; Otto C. Gehring, Preston, Md.; George A. Metz, Lincoln, Del.; Robert J. Stickles, Salisbury, Md.; Dr. Willingham; Arthur F. Johnson, Salisbury, Md.; Boyd Whitney, Jr., Parksley, Va.; Milton C. Hudson, Selbyville, Del.; Samuel S. Messick, Salisbury, Md.; Jack T. Elliott, Laurel, Del.; L. Edward Brown, Salisbury, Md.; Joseph A. Kolloch, Jr., Millsboro, Del.; Jack H. Layfield, Dagsboro, Del., and J. A. Isaacs, Lincoln, Del., territory manager for Dr. Salsbury's Laboratories. All men received a course in poultry disease recognition, prevention and control. Students from 11 states and Great Britain attended the course.

PURINA

(Continued from page 1)

cording to Donald Danforth, chairman of the board.

Mr. Danforth noted in the quarterly financial report issued this week that profits for the January-March quarter were greater than for the first quarter of the current fiscal year and also greater than for the same quarter last year.

April financial results were not available at the time of the report, but "sales are considerably higher than last year and we anticipate a good month," Mr. Danforth said.

Mr. Danforth pointed out that the financial report covering the six months ended March 31 is for the U.S. and Canadian companies and said that if earnings of affiliated companies in the international division had been included, the total earnings per share would have been $1.62 for the first six months of the year as compared with $1.55 a year ago.

The board chairman said that results of the soybean division are "very disappointing" due to high price of raw soybeans in comparison with the prices of processed oil and meal, leaving "no operating margin for profit."

Mr. Danforth said that a quarterly dividend of 35¢ will be payable June 12 to shareholders of record at the close of business May 22.

AFMA

(Continued from page 1)

are: Dwight L. Dannen, Dannen Mills, Inc., St. Joseph, Mo.; G. A. Ensminger, Albers Milling Co., Los Angeles; Dr. Walter A. Glista, Wirthmore Feeds, Inc., Waltham, Mass.; Dr. J. L. Krider, Central Soya Co., Ft. Wayne, Ind., and Dr. Paul E. Newman, Beacon Milling Co., Cayuga, N.Y.

The five members serving their second term are: Harry C. Johnson, Montana Flour Mills Co., Great Falls, Mont.; Dr. Charles K. Laurent, Marbut Milling Co., Inc., Augusta, Ga.; Henry C. Tilford, Jr., Dixie Grain Co., Shelbyville, Tenn.; Edward Woolman, Hales & Hunter Co., Chicago, and Steele Wright, Texas Farm Products Co., Nacogdoches, Texas.

Mr. Dannen served as president of Dannen Mills since 1953. For the previous 18 years he was vice president. He has been most active in trade and civic organizations. Mr. Dannen is a director and past chairman of the National Soybean Processors Assn., director and past vice president of the Missouri Grain & Feed Assn., past president of the Missouri Poultry Council, director of the Nebraska Grain Improvement Assn., and a past director of the Midwest Feed Manufacturers Assn. and Soybean Council of America.

G. A. Ensminger is executive vice president of Albers Milling Co., a division of Carnation Co. He is a graduate of the University of Missouri. He started with Albers in 1946 as a territory salesman, and has advanced through the following positions: Assistant branch manager, staff assistant to the president, general sales manager, vice president in charge of feed marketing (February, 1959); and his present position, April 1, 1960. He is in charge of production and procurement for feed milling, cereal division and the pet food division.

Dr. Walter A. Glista has held the position of vice president in charge of research for Wirthmore Feeds, Inc., since 1957. Dr. Glista completed his undergraduate work at the University of Massachusetts, obtained an M.S. degree at the University of Cincinnati, and a Ph.D. degree from the University of Illinois. He started with Wirthmore in 1951 as assistant director of research, and was named director of research in 1956. He is former chairman of the board of trustees of the Animal Nutrition Research Council, a member of three scientific groups and chairman of the AFMA additives committee.

Harry C. Johnson, vice president of Montana Flour Mills since 1955, started with that company in 1938 as a chemist. Subsequently, he was named head of products control (1944), and manager of feed division (1948). Prior to working for Montana Flour Mills, he spent four years with Continental Baking Co. and Ismert-Hincke Milling Co. after obtaining a degree in flour milling industry from Kansas State University. Mr. Johnson is a charter member and the first president of the Montana Feed Manufacturers and Dealers Assn., and has also served as its secretary-treasurer.

Dr. Krider, vice president in charge of public relations for Central Soya Co. since 1956, joined the McMillen feed division in 1950 in feed research and education. In 1951, he was named vice president and director of feed sales. Dr. Krider completed his undergraduate work and obtained a M.S. degree at the University of Illinois, and his Ph.D. degree from Cornell University. He served in the animal husbandry departments at both universities and was professor of animal science at Illinois from 1947 through 1950. He co-authored two textbooks and authored over 125 technical and popular articles of the feed and soybean industries, agriculture and animal production. Dr. Krider was selected by the American Society of Animal Production to receive AFMA's $1,000 award in 1950. He is past chairman of the AFMA public relations committee and a member of the public relations committee of the Soybean Council of America, the agriculture committee of the Chamber of Commerce of the U.S., and the advisory committee on formula feed processing at Kansas State University. At present he is on special assignment as vice president in charge of evaluating and planning for the Soybean Council of America in various overseas countries, based in Rome, Italy, and expects to return to the U.S. in September.

Dr. Charles Kenneth Laurent has served as president and general manager of Marbut Milling Co., Inc., since 1959. For the two previous years, he was general manager. Dr. Laurent obtained a B.S. degree in agriculture at the University of Florida in 1949, and was awarded his M.S. and Ph.D. degrees from Cornell University in the three following years. He is the current president of the Georgia Feed Assn. and vice president of the Georgia Poultry Federation. Dr. Laurent is a member of Poultry Science Assn., and was one of the charter members of the poultry survey committee, co-sponsored by AFMA and other national organizations, American Farm Economic Assn. and the Augusta Exchange Club.

Dr. Paul E. Newman, executive vice president since 1955 of Beacon Milling Co., a division of Spencer Kellogg & Sons, joined the firm in 1937 as a dairy specialist. In 1953, he was named director of dairy research and also held the position as manager of the ingredient supply department during a corresponding period. He served as vice president from 1948 through 1955. Prior to his employment with Beacon, Dr. Newman was a science teacher in Culver, Ind. He was a member of the AFMA nutrition council from 1952 through 1957, and the AFMA board of directors from 1958 through 1960. His degrees were conferred at Purdue University, the University of Wisconsin and Cornell University, and he graduated from the advance management program of the Harvard Business School.

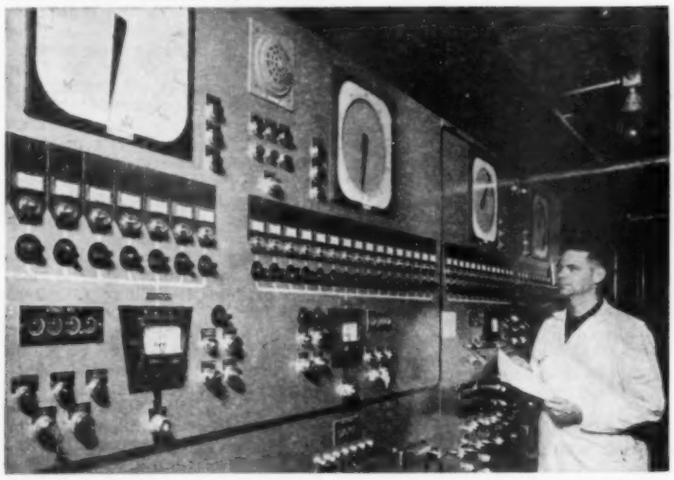
Henry C. Tilford, Jr., has been secretary of the Dixie Grain Co. since 1939. His employment started with the firm immediately following graduation from the Georgia School of Technology where he obtained a B.S. degree in mechanical engineering. He is a past officer of the Southeastern Poultry & Egg Assn. and the National Broiler Council.

Edward Woolman, executive vice president of Hales and Hunter Co. since 1960, joined the firm in 1938 as a laboratory assistant. He was a salesman for the two years prior and four years following World War II. From 1950 through 1954 Mr. Woolman served as personnel director, assistant general manager, 1954-58, and director of marketing, 1958-60. He is secretary-treasurer for the Foundation for American Agriculture and chairman of the AFMA finance and budget committees. Mr. Woolman is a graduate of Dartmouth College, obtaining A.B. and M.C.S. degrees.

Steele Wright was elected president of Texas Farm Products Co. in 1958. The firm was started by Mr. Wright and his father when they moved to Texas from Virginia in 1930. Since that time, the firm has grown from 20 employees to over 400. Mr. Wright first worked as a salesman, then plant superintendent, and then vice president. He is chairman of the agricultural committee of the East Texas Chamber of Commerce, and has served as a director and chairman of the legislative committee of the Texas Feed Manufacturers Assn., and a director of the Texas Grain & Feed Assn.

GRAIN STORAGE PLANS

EMPORIA, KANSAS—The Teichgraeber Milling Co. has announced plans to build 200,000 bu. of grain storage space. The Columbian Steel bins will be erected by Dana Clark Equipment Co., Inc., Wichita.



CONTROL PANEL—This control panel is the "heart" of the new Western Farmers Assn. feed plant in Portland, Ore. The Richardson automatic proportioning system uses IBM card information for proportioning of micro-ingredients as well as other ingredients.

Western Farmers Assn. Dedicates New Mill

PORTLAND, ORE — The Western Farmers Assn.'s newest facility—a "push button" feed plant capable of manufacturing 240 tons per eight-hour shift—was officially dedicated April 28 at a ceremony attended by Oregon state and Portland civic and business leaders and WFA officials and members.

This new plant of the Seattle-headquartered cooperative will supply Oregon and southwest Washington members.

The new facility, said Harry J. Beernink, WFA general manager, represents an investment of nearly $2 million, including the property site. The mill is located in Portland's Mocks Bottom industrial area.

"This new mill of latest design represents the completion of another important facility to serve our expanding membership in this area," Mr. Beernink said at a dedication luncheon.

"Plans are also presently being developed for immediate construction of a modern poultry processing plant, together with egg handling facilities, on this property. Both plants should be ready by early fall and will provide for the consolidation of our poultry and egg operations in this area. They will represent an outlay of approximately $750,000.

"WFA's expanding operations in Oregon now include the new mill, poultry processing plant at Portland, branches in Junction City, Hillsboro, Medford and Salem, and distributorships at Roseburg, Coquille and most recently in St. Helens.

"Based upon experience in other areas, I anticipate further expansion in our Portland and Oregon facilities and in our services to farmers."

Among those participating at the luncheon and dedication in addition to Mr. Beernink were K. F. Lundberg, WFA director of operations; Henry J. Hansen, Puyallup, president; Cornelius Bateson, Salem, director; Jim Short, state director of agriculture, and Noel L. Bennion, Oregon extension service.

An open house featuring tours of the new mill was held following the dedication ceremonies.

The mill rises 198 ft. from basement to headhouse. It is constructed of reinforced concrete and steel, and the main building is 42 by 71 ft., with an attached 80 by 120 ft. warehouse.

At present about 98% of the mill's output is in bulk.

One of the features of the mill is the automatic proportioning system, using IBM punch cards and a Richardson electronic control panel. IBM cards, activating the mechanism, are first programmed by the research division and the feed division. When necessary to meet the requirements of different formulas, 50 separate ingredients are available. Exact amounts of each ingredient, whether 1,000 lb. of ground grain or ¼ lb. of micro-ingredients per ton is required, are automatically proportioned by inserting the punch cards in the panel board.

Major ingredients are moved by screw conveyors into either of two 5,000-lb. scale hoppers, as called for by the IBM card. Eight additional bins feed into a 500-lb. scale as required by the card. Simultaneously, the micro-blend unit—containing 16 bins holding drugs, vitamins and trace minerals—is accumulating its charge. These micro-ingredients are fed into a 50-lb. hopper scale as called for by the panel board. This scale is accurate to .05 lb. The unit eliminates the necessity for making premixes and simplifies the mixing of the drugs, officials said. After the batch is completely accumulated, air gates under the hopper scales automatically discharge the feed into one of the two 3-ton Hayes & Stolz horizontal mixers.

Collaborating in the design of the mill were WFA and Weitz-Hettelsater Engineers, Kansas City, which was the prime contractor for the building and machinery installations. Among the WFA executives active in the development and operation of the big new mill were Russell Rathbone, assistant general manager; Dale Smith, manager, feed division; Otto J. Hill, assistant manager, feed division; Marvin Larson, manager of the Portland mill, and Wayne Miller, director of the research division.

UNDERSTANDING

(Continued from page 6)

manufacturer stipulates and as the Food and Drug Administration permits."

The new law, Mr. Bowman, stated, recognizes and corrects the former "unrealistic" distinction between "harmful" and "safe" additives. "It affirms a truth enunciated in the 16th century by a famous physician, Paracelsus: 'All things are poison and nothing is innocuous. It is only the dosage by which a thing is not poison.'

"It is at last officially recognized," he said, "that many chemicals, though harmful in large doses, offer positive improvement to foods. These chemicals should, therefore, be approved for use if their use is held within strict limits which are proved to be harmless."

It was noted that "the dosage is the very essence" of the new Food Additives Amendment. "The difference between safety and danger depends not on the chemical, per se, but on the amount of the chemical," Mr. Bowman emphasized.

Mr. Bowman explained that his remarks were not meant to imply that public protection was lacking before the new amendment.

Examining the provisions of the Food Additives Amendment, he noted that the old law regarded chemicals for foods as falling into two classifications — "poisonous" and "non-poisonous." "The former group," he said, "with certain notable exceptions, was ruled out of feeds. Exceptions were substances required in production or unavoidable in 'good manufacturing practice,' and even those were disqualified unless a tolerance for their use had been established.

"Under the old law there was no fixed responsibility to prove an additive 'safe.' It was the job of the Food and Drug Administration to prove an additive 'harmful,' if such were the case. The new law takes the burden of proof from FDA. The food manufacturer or chemical manufacturer must now prove that his additive is safe in the amount of its intended inclusion in food."

Under the old law, Mr. Bowman explained to the agricultural editors, when FDA had to prove an additive harmful, fears were often expressed that FDA did not have the time and the staff to research and test all additives.

"Alarmists"

"Such fears were generated," he said, "as similar fears are today, by the alarmists whose prosperity depends on scaring the daylights out of the consumer. What those people have never told the consumer is the extent of industry's own research, industry's self-policing, industry's testing of its products as its own reassurance and the millions of dollars industry has invested in such precautions. . . .

"It is a rather sad but important truth that the ringing of any kind of alarm has a keen human appeal, particularly when the outcry is directed against alleged malfeasance in high places.

"A writer who charges government and industry with negligence in food regulation, and warns the public of imminent calamity resulting therefrom, may find a huge audience. His book becomes a best-seller, or his magazine article is widely discussed, even though his text may be poorly buttressed by facts. But a government scientist, or the research director of a food or chemical firm, usually defends his cause in a professional journal with a small fraction of the audience available to the attacking forces."

NEW YORK MILL BURNS

RIVERHEAD, N.Y.—Fire recently destroyed the 100-year-old Eihler's Molasses Feed Mill here. The half-block long two-story wooden frame mill had not been in use in recent years.

Topics for Georgia Event Announced

ATLANTA, GA. — Financing and integration will be featured portions of the program of the Georgia Feed Manufacturers Assn. annual convention in Grand Bahama Islands in July, according to officials.

Dr. George R. Ingram, secretary of the Alabama Feed Assn., will lead discussions on the integration picture, while W. D. Nusbaum, treasurer of Ralston Purina Co., will talk on the financial situations affecting the industry.

The program for the meeting, which opens Sunday, July 16, and concludes Tuesday, will also feature a talk on calcium requirements and feeding practices for broilers and laying hens by Dr. Hardy Edwards, University of Georgia. "Permanent Feed Registration" will be the topic of F. S. Carr, Georgia State Department of Agriculture.

"Grain Grading" will be the title of an address by Wayne Jamison, also of the Georgia Department of Agriculture.

A golf tournament will get under way Saturday and continue through Sunday, and a side boat trip to Sandy Cay Island has also been arranged for those wishing to do sightseeing.

Charter flights have been arranged to leave from Atlanta on Friday, July 14.

CERTIFICATES

(Continued from page 6)

program can redeem them in cash.

"If a certificate is not redeemed in grain or submitted to CCC for marketing within 30 days after issuance, storage and handling charges will be deducted from the face value of the certificate. This deduction will be at the rate of 1/25 of 1% per day beginning on the 31st day after issuance and continuing until redeemed.

"Feed grain certificates issued to producers for participation in the feed grain program reflect half or more of the dollar value of normal production on the acreage the farmer has diverted under the program. The dollar value is determined on the basis of the county support rate. Provision is made for producers to get approximately half of their payment in certificates when they sign up under the program this spring."

Certificates issued to producers under advance payment provisions may be redeemed as indicated above, USDA's announcement said.

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
February 25	1,191	390	956	743	102	767	1,939	2,427
March 4	1,184	414	710	819	99	843	2,115	2,076
March 11	1,170	404	908	777	130	722	2,092	2,046
March 18	1,229	468	928	854	80	749	2,138	2,186
March 25	1,242	434	861	893	101	842	2,172	2,427
April 1	1,214	494	815	891	125	823	2,276	2,582
April 8	1,263	548	868	967	104	850	2,124	2,632
April 15	1,234	512	915	972	120	787	2,250	2,583
April 22	1,209	520	989	884	167	807	2,121	2,638
April 29	1,140	508	985	970	162	862	2,156	2,665

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
February 25	1,026	529	3,984	412	7,655	223	4,404	3,085
March 4	973	465	3,895	480	7,668	227	4,649	2,860
March 11	1,238	510	4,008	404	7,681	259	4,737	2,952
March 18	1,327	600	4,112	449	7,739	279	4,954	2,958
March 25	1,465	649	4,304	433	8,441	257	4,951	3,288
April 1	1,340	649	4,442	476	8,747	291	4,921	3,294
April 8	1,477	753	4,398	553	8,981	262	4,875	3,426
April 15	1,489	621	4,477	487	8,902	344	4,928	3,364
April 22	1,512	518	4,496	469	8,885	268	5,091	3,321
April 29	1,389	601	4,381	510	8,927	296	5,077	3,164

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1961	Total 22 areas 1960
February 25	4,827	556	2,787	352	264	1,426	39,965	36,604
March 4	4,664	508	2,816	413	305	1,486	39,669	34,954
March 11	4,621	608	2,860	350	355	1,473	40,305	35,168
March 18	4,926	620	2,950	358	260	1,533	41,697	35,468
March 25	5,269	600	3,087	401	352	1,475	43,944	35,637
April 1	5,499	658	3,274	367	250	1,443	44,871	34,070
April 8	5,448	598	3,280	363	248	1,422	45,440	34,708
April 15	5,604	623	3,094	398	293	1,516	45,513	34,980
April 22	5,517	584	3,207	340	364	1,502	45,409	36,235
April 29	5,677	589	3,301	441	315	1,489	45,605	36,783

MARKETS

(Continued from page 2)

flocks as closely this year because of the profitable levels. Broiler prices, however, slipped ½¢ lb. lower, and the depressed market may cause some marginal growers to give up the ghost.

Dairy farmers in western New York area were hit by a strike of milk delivery truck drivers May 1 in Buffalo and its suburbs. Although there are no reported instances of milk being lost, the cost of hauling milk to processors outside western New York and the lower prices paid for milk for manufacturing purposes have resulted in a heavy loss to farmers.

Industry officials said that if the strike drags for any length of time then almost inevitably there will be some loss of milk through spoilage or dumping.

Running time of formula feed manufacturers rose to 40 hours last week, and in some instances more, from 36 hours in the preceding period.

Southeast

Formula feed business in the Southeast remained practically unchanged from last week. Poultry feed business was reported as being very good, with mills' running time above normal.

Many feed ingredients continue in tight supply and buyers are having trouble fulfilling their needs. Many of the cottonseed oil mills have completed their crushing operations for this season, and this has resulted in a much firmer market for both cottonseed meal and hulls. Many of the remaining operating mills are withdrawing their products from the market as they think by the end of May prices will advance considerably. One oil mill this week advanced its asking prices for cottonseed hulls $5 ton.

Good supplies of western corn by truck are available at $1.30 bu. delivered most southeastern points.

Many citrus processors are reporting greater supplies of citrus pulp on hand than at this time one year ago. Production at the present time is exceeding demand and the major processors are inclined to store pulp and let the processors who have very little or no storage space continue to fill the pipelines until processing operations are over for this season. They have hopes of better returns for their products later.

South Central

Demand for formula feed shows a moderate amount of improvement this week. Hog feeds are moving at a good rate, along with a better outgo of chick, pig, turkey and broiler feeds. The increase on these items more than offsets the decline in dairy and cattle feeds. Volume seems to be running a little larger than a year ago.

Majority of feed manufacturers are on a strong five-day capacity basis. In scattered instances, short overtime runs are reported.

Livestock marketing shows a sharp increase, according to officials at the local yards. Saleable cattle receipts for the week were up a fourth from those of the preceding period and the largest in 12 months. A large run of hogs, at heavier than normal weights, furnished packers with the largest pork tonnage in a year. Buyers said that the availability of cheap corn is resulting in hogs being fed to heavier weights than the packers prefer.

Pacific Northwest

Oregon, Washington and Idaho feed dealings this week saw poultry feeds maintaining last week's volume at most quarters while sale of cattle and dairy rations slipped further on a seasonal basis because of excellent pasture conditions and warmer spring weather.

Purchases of feed ingredients by area feeders were largely on a "nearby" basis as a reflection of their comparatively high cost in relation to the low cost of poultry and livestock products sold.

Producer egg prices held unchanged.

Live frying chicken prices slipped to a new seasonal low this week when Oregon listings dropped 1¢ at the inside of the 15½-20½¢ range when picked up at Willamette Valley ranches.

Ohio Valley

After a week of reasonably springlike weather, the sky opened up last mid-week with a cold downpour of rain that left the farmlands in the Ohio Valley just one big sea of mud. Farmers need some drying weather so they can get into the fields, and as corn planting is already a month behind schedule, they are somewhat nettled.

Manufacturers of feed ingredients report a steady demand for such commodities as chick starters, poultry and turkey feeds, with a slight pickup in demand for broiler feeds.

Southern California

Extreme temperature changes and warmer weather during this week have naturally affected the eating habits of the poultry population in the area. Feed production remains constant except in the heavy turkey feeding territories where extra shifts are necessary to keep up with demand.

Grain prices advanced steadily once again and this plus increased protein costs has feed dealers most concerned. Fish meal prices advanced $5-10 ton and cottonseed meal increased $2-3 ton.

The net result was that Southern California feed men were forced to increase feed price lists 5-10¢ cwt. which is an unusual circumstance. Feed operators are cautioning their credit managers to be alert for changing customer payment policies, as the local poultry industry is alarmed with current conditions.

High feed costs and lower egg and broiler prices have always produced credit problems in the past and this time is no exception. Fortunately for everyone involved, the poultrymen have been satisfied with net profits these last six months, but now the old menace of over-production exists again.

Fryers continue to be trucked in quantity into various California markets from other sections of the country, disturbing local growers immensly. In fact, present price factors are definitely discouraging producers from replacing these birds. If conditions continue unchanged and replacements begin to decrease, this feed volume difference will be noticed within a short time.

Growing concern mounts regarding fall turkey prices as many dealers fear depressed markets from overproduction.

Unfortunately, the beef market seems far too low and to make things more discouraging to the local feeders, it is rumored that eastern beef may be shipped in large quantities to the Los Angeles area. Replacing cattle at present price levels seems to appeal only to the real speculators. This condition has disappointed certain feedlot owners particularly when many operators expanded facilities to handle additional cattle this season. However, there is hope of improved beef prices during the summer months.

Expansion Program

RUSSELLVILLE, ARK.—The Arkansas Valley Feed Dealers Assn. which is located in one of this state's leading broiler and beef producing areas, will receive the cooperation of Arkansas Tech College here in the vast expansion of the feed-mixing and distribution program. J. W. Hull, Tech president, appeared at the association's last meeting and offered an agricultural training program fitted to the present needs of the valley area.

INDEX OF ADVERTISERS

The index of advertisers is provided as a service to readers and advertisers. The publisher does not assume any liability for errors or omissions.

Abbott Laboratories..51, 158, 159
Aeroglide Corp. 166
Agri-Tech 127
Albumina Supply Co. 182
Allied Chemical Corp., Nitrogen Div. 171
Alloy Hardfacing & Eng. Co.. 171
Amburgo Company 115
American Cyanamid Co. ...59-61
American Dehydrators Assn... 144
American Elev. & Grain Div...
American Scientific 36
Anderson Box 22
Anderson, V. D., Co. 140
Arbor Acres Farm 20, 125
Archer-Daniels-Midland Co., Alfalfa Division 5
Assn. of Mill & Elevator Mutuals .....
Aubrey Feeds .....

Babcock Poultry Farms .....
Bakery Equipment Eng. Co... 37
Baker, H. J. .....
Barnard & Leas Mfg. Co., Inc. 118
Baroid Chemicals, Inc., Subsidiary of Natl. Lead Co... 122
Bartlett, C. O., & Snow Co...
Baughman Mfg. Co., Inc. ...
Baxter, A. E., Engineering Co.
Beardstown Mills Co. 135
Bemis Bro. Bag Co. 91
Berg, Paul .....
Blatchford Calf Meal Co. ... 147
Blomfield-Swanson .....
Borden Co. 35
Bowman Feed Prod. 140
Bradley-Barr 11
Brewers Yeast Council 154
Brower Manufacturing Co. .. 156
Brown's Ledbrest, Inc. 104
Bryant Engineering Co. .....
Burlap Council 68, 69
Burrows Equipment Co. 53
Butler Mfg. Co. 64

C-K Processing Co. 126
Calcium Carbonate Co. 149
California Pellet Mill Co. 110, 111, 163
Cardinal Scale Mfg. Co. ....
Carey Salt 70
Cargill, Inc. 48
Champion Portable Mill Co... 172
Chase Bag Co. 155
Checkerboard Grain Co. 181
Chick-Master Incubator Co.
Ciba Pharm. 66, 67, 125
Cleveland Vibrator 98
Clinton Corn Processing Co... 26
Clofine, Herbert K.
Clupak, Inc. .....
Cobb's Pedigreed Chicks, Inc. 42
Colonial Poultry Farms .....
Columbia Phosphate Co. 109
Columbia Quarry Co. .....
Columbian Steel Tank 62
Combs & Co. 87
Commercial Solvents Corp....9, 38
Consolidated Blenders, Inc... 141
Consolidated Quarries Div., The Georgia Marble Co.
Consolidated Water Power & Paper Co. 133
Continental Grain 102
Corn Products Sales Co. ...
Credit & Financial Mgrs. Assn.
Custom Millers Supply Co. ... 97

Daffin Manufacturing Div. ... 168
Dannen Mills, Inc. 124
Darling & Co. 170
Davies, Wm. E., Co. 153
Davis Enterprises .....
Davis, H. C., Sons' Mfg. Co., Inc. 67
Dawe's Laboratories, Inc. ... 143
Day Company, The 176
Daycom, Inc. .....
Dayton Bag & Burlap 122
Deere, John, Chemical Co...
Delaware Poultry Laboratories 152
Devold, Peder, Oil Co. .....
Diamond Alkali Co. .....
Diamond V Mills, Inc. .....
Distillation Products Industries 145
Distillers Feed Research Council .....
Dodgen Industries 137
Dorn & Mitchell Laboratories.
Douglas Chemical Co. .....
Dow Chemical Co. 44, 45
Duplex Mill & Mfg. Co....49, 50
Du Pont de Nemours & Co., Inc., E. I. .....

Eagle Nest Hatchery .....
Eastman Chemical Prod., Inc.
Ehrsam, J. B., & Sons Mfg. Co., The 178
Elanco Products Co. 89
Empire Sales Training Center 178
Eriez Mfg. .....
Eschenheimer, Rudy, Co. 118
Eshelman, John W. 100
Ewing, Ray, Co. 56

Farmers Friend Mineral Co... 151
Farmers Mutual Hail Ins. of America .....
Fischbein, Dave 57
Fitzpatrick, U. E., & Co. ...
Flavor Corp. of America ... 167
Food Mach. & Chem. .....
Forster Mfg. Co. 169
Fox Co. 101
Frontier Chemical .....
Fruen Milling Co. .....
Fuller Co. .....

Garelick Bros. Farms, Inc. ..
Gerber Sheet Metal, Inc. ...
Gorton-Pew Fisheries 181
Grace, W. R., Co. 99
Grain Belt Supply Co. 109
Grain Processing Corp. 63
Gump, B. F., Co. 30

Hand, Peter, Foundation ...3, 14
Harshaw Chem. 26
Haugen, W. D., Co. .....
Hayes & Stolz Ind. Mfg. Co..
Haynie Products, Inc. 97
Heil Co., The .....
Heisdorf & Nelson Farms, Inc.
Henderson Mfg. .....
Henke Mfg. Co. 124
Hess & Clark, Inc. 71-84
Heterochemical Corp. 65
Highway Equip. Co. .....
Hoffmann-La Roche, Inc...112, 113
Hoffman-Taff, Inc. 110
Hogenson Const. Co. 43
Hogg, N. D., Ltd. .....
Holt Products 156
Honeggers' & Co. 98
Hooker Chemical .....
Howes, S., Co., Inc. 120, 121
Hubbard Milling Co. .....
Hubbell, Charles H. .....
Huss & Schlieper .....
HyLine Poultry .....

Ibberson, T. E., Co. 88
Illinois Soy Products Co. 128
International Minerals & Chemical Corp. 47
International Salt Co., Inc. .. 85
Iowa Limestone Co. .....

Jackson, Gilbert, Co., Inc. .. 57
Jacobson Machine Works ... 15
Jersee Co. 128

Kansas City Millwright Co...
Kansas Soya Prod. Co., Inc...
Kean Mfg. .....
Kees & Company 88
Kem Mfg. Co. .....
Kent Feeds .....
Kent, Percy, Bag Co., Inc...
Keystone Steel & Wire .....
Kindstrom-Schmoll Co. .....
Knappen Milling Co. 22, 148
Kraft Bag Corp. 103
Kraft Foods Co. 41, 43

Laboratory Const. Co. 38
LaBudde Feed & Grain Co... 131
Landers Mach. Co. .....
Land O'Lakes Creameries, Inc.
Lauhoff Grain Co. .....
Leach Mfg. Co. 54, 55
Limestone Products Corp. of America 92
Loncala Phosphate Co. 126
Long Prairie Alfalfa Mills ...
Lucas Products Co. .....

McCabe Grain Co., Ltd. 66
McMillen Feed Mills 173
Magnus, Mabee & Reynard ..
Maney Bros. Mill & Elev. Co. 4
Mann, W. P., Sales Co. 128
Mayo Shell Corp. 119
Melos Mfg. 174
Merck & Co. 93-96, 107
Meyer, C. W. .....
Mid-Continent Grain Co. 36
Mid-States Construction Co...
Midwest Bag Co. .....
Midwest Dried Milk Co. ....
Milbrew Co. .....
Miller, Mel, & Co., Inc. 88
Miller Publishing Co., The ...
Minneapolis Sewing Machine.
Monsanto Chemical 40
Morton Chemical Co. .....
Morton Salt Co. 58
Myers-Sherman Co. 114

Nagel, Herman, Co. .....
National Alfalfa Dehydrating & Mig. Co. 186
National Distillers .....
National Molasses Co. .....
National Oats .....
National Renderers Assn. 52
Nellis Feed Co. 111
New Century Co., The .....
New England By-Prod. Corp... 181
Nichols, Incorporated 70
Nootbaar, H. V., & Co. .....
Nopco Chemical Co. 139
North American Trading & Import Co. .....
Nor-Vell, Inc. .....

Oakes Mfg. 115
Olavarria & Co. .....
Oyster Shell Corp. .....
Oyster Shell Prod. Co. 88

Pabst Brewing Co. .....
Paper, Calmenson & Co. 150
Pardee Co. 69
Parks, J. P., Inc. .....
Parrish & Heimbecker .....
Parrish, N. K. 121
Paxton Processing Co. 177
Pay Way Feed Mills, Inc. .. 85
Peavey, F. H., & Co. 178
Penick, S. B., & Co. .....
Perma-Weld, Inc. .....
Peterson Breeding Farm 146
Pfizer, Chas., & Co., Inc... 17, 19, 21, 23, 25, 27, 29, 31, 33
Phelps Dodge Refining Co... 120
Pilch's Poultry .....
Pillsbury Co., The 161
Pittsburgh Plate Glass Co. .. 57
Pless, Joe N., Co. .....
Pope Testing Lab. 64
Poul-An Laboratories, Inc. .. 182
Poultry By-Products Assn. ...
Power Curve Conveyor .....
Prater Pulverizer Co. 123
Productive Acres Mfg. Co. ... 11
Professional Feeds Div. .....
Publicker Industries, Inc. 157

Quaker Oats Co. 127

Ralston Purina Co. 39
Rapids Machinery Co. 127
Red River Alfalfa Co. .....
Reliance Feed Co. .....
Renneburg, Edw., & Sons Co. 142
Richardson Scale Co. 174
Ripco, Inc. .....
Roskamp Huller Co. 20
Ross Equipment .....
Ross Mach. & Mill Supply .. 177
Ryde & Co. .....

St. Regis Paper Co. 106
Salsbury's, Dr., Labs. 12, 13
Schenley Distillers, Inc. 130
Schipke, Henry, & Assoc.... 56
Schutte Pulverizer Co., Inc...
Scott Paper 131
Seagram, Joseph E., & Sons, Inc. .....
Seedburo Equipment Co. 120
Shelby Mfg. 150, 151
Shellbuilder Co. 105
Sievert, C. W. .....
Simonsen Mfg. Co. 30
Sioux Products 85
Small, The W. J., Co. 5
Smith-Douglass Co., Inc. 34, 166, 167
Sohio Chemical Co. .....
Southwest Dehyco Co. .....
Southwest Mill Supply Co... 177
Spencer Kellogg & Sons, Inc..
Sprout, Waldron & Co., Inc... 163
Squibb, E. R. .....
Stabilized Vitamins 42
Standard Brands, Inc. 48, 53, 172, 175
Star-Kist Foods 11
Sterwin Chemicals Inc. 142
Stivers, T. E., Co. 148
Sudenga Industries .....
Sunset Feed & Grain Co. ...
Superior Boiler Works 58
Superior Div. of Daffin Corp. 46, 147
Superior Feed 131
Suforbilt Corp. .....
Swanson, Carroll, Sales Co...
Sweet Mfg. 40, 104

Taste Engineering Co. .....
Thomas Conveyor Co. 100
Thompson-Hayward Chem. Co.
Tobias Enterprises .....
Toledo Scale .....
Toxite Laboratories 22

Ultra-Life Laboratories, Inc... 46
Union Bag-Camp Paper Corp. 165
Union Special Machine Co... 170
United Bags, Inc. 138
Universal Hoist Co. .....
Upjohn Co. 136

Van Dusen Harrington Co... 178
Vantress, Chas., Farms, Inc...
Vineland Laboratories, Inc...
Vineland Poultry Lab. 169
Vitren Corp. 87
Vy Lactos Laboratories, Inc... 175

W-W Grinder Corporation .. 117
Warren Douglas 126
Weitz-Hettelsater Engineers .. 117
Wellens & Co. .....
Wells, Ralph, & Co. .....
Wenger Mixer Mfg. Co. 28
Wertz Feed Products 98
Western Condensing Co. 162
Western Yeast Co. 160
West Virginia Pulp & Paper Co. 129
White Shell Corp. .....
Whitmoyer Laboratories, Inc.. 90
Wilhoit Laboratory 41
Wilson & Co. 171
Wilson, R. S., Co. .....
Wilson Trailer Co. 134
Winborn's 172
Wirthmore Feeds .....
Wyatt Mfg. .....

Yacowitz, Dr., H. 41
Young, John 144

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